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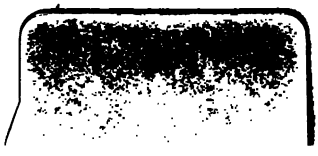
THROWER'S

ARITHMETICAL QUESTIONS.

48. 1752.



QUESTIONS

IN

ARITHMETIC

FOR THE USE OF THE

FREE GRAMMAR SCHOOL

OF

KING EDWARD THE SIXTH,

BIRMINGHAM.

BY

WILLIAM THROWER,

ARITHMETICAL MASTER IN THE ENGLISH DEPARTMENT OF THE SCHOOL.

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By the same Author,

ANSWERS TO THE QUESTIONS

CONTAINED IN THIS VOLUME.

These answers may be used by the Teacher for promptly ascertaining the correctness of the Pupil's work, or they may be used by the Pupils in the absence of a Tutor, as they do not contain the details but the results of the calculations.

PREFACE.

The following questions were drawn up for the use of the English Department of King Edward the Sixth's Free Grammar School in Birmingham. It has been the object of the Compiler to frame them in such terms, and place them in such an order, as should be of easy comprehension to the learner, and lead him gradually from the simpler to the more complicated operations of Arithmetic. The examples in the different Rules being however given separately, it is in the power of those preferring a different order without difficulty to adopt it.

The whole number of original Examples is above six thousand. To facilitate reference to any particular question, the whole of those under each Rule are divided into sets of ten each, distinguished, as far as necessary, by the letters of the alphabet. Much time is thus saved in setting miscellaneous questions from different parts of the book, by simply directing the Pupil to each, according to the Rule, letter of the alphabet, and number under it, instead of causing him to transcribe the question at length.

It is intended to follow the present collection of questions by a number of miscellaneous exercises, arranged under classes, in such a manner as to allow the examination of pupils who have attained to any rule in Arithmetic, in that Rule, as well as those preceding it.

The Compiler takes this opportunity to return his best thanks to the Rev. J. P. Lee, M.A., the Head Master, and the Rev. J. Abbott, M.A., the Mathematical Master, in King Edward the Sixth's Free Grammar School, by whose recommendation these examples have been prepared, and under whose sanction he is permitted to publish them.

WILLIAM THROWER.

Birmingham, August 1, 1846.

Note.—The answers to all the questions will be printed separately.

NUMERATION.

No. 1.—Express in words

A 1 709

2 3084

3 406084

4 70083041

5 670705809

Express in Arabic figures,

6 Three hundred and sixty-five.

7 Seven thousand and eighty-four.

8 Six hundred thousand, four hundred and thirty.

9 Five millions, seven hundred and twelve thousand, eight hundred and forty-three.

10 Eight hundred and forty millions, forty thousand and sixty-eight.

Express in Roman characters,

B 1 Three hundred and seven, and 46.

2 One thousand and forty-five, and 58.

3 Two thousand five hundred and sixty-six, and 75.

4 Fifty-five thousand four hundred and twenty-nine, and 109.

5 Seven hundred and seven thousand, five hundred and eighty-seven, and 1840.

Express in words, and in Arabic figures,

6 LVII

7 CCCXVIII

8 .. .. MDCCCXLVI

9 .. .. $\overline{\text{CL}}$DCCIX

10 .. .. $\overline{\text{MM}}$CCC

Express in Arabic figures with signs, the following operations,

C 1 Seven, multiplied by twenty, plus eleven, minus twenty-one, divided by ten, equal to thirteen.

2 Two hundred and nineteen, divided by three, multiplied by four, minus ninety-two, plus twenty-four, equal to two hundred and twenty-four.

3 Seventy-eight, minus fourteen, divided by eight, multiplied by nine, plus fourteen, equal to eighty-six.

4 Fifteen, multiplied by fifteen, divided by five, plus sixteen, minus thirty-one, equal to thirty.

5 Eight, multiplied by sixteen, plus twenty-eight, minus twenty-four, divided by eleven, equal to twelve.

6 Twenty-one, multiplied by eight, minus twenty-eight, plus forty, divided by six, equal to thirty.

7 Eleven, plus eleven, minus two, plus four, multiplied by eight, divided by four, equal to forty-eight.

8 Twelve, minus nine, plus sixteen, multiplied by eight, divided by eight, minus four, equal to fifteen.

9 Twenty-four, divided by three, plus four, minus four, multiplied by eight, minus eight, equal to fifty-six.

10 Nine, minus six, multiplied by nine, plus nine, divided by four, minus three, equal to six.

SIMPLE ADDITION.

No. 2.

A 1 4107+2378+4106+3721+1487+6732

2 7814+1063+2874+4184+6324+8413

3 4025+2174+1083+756+4162+7138

4 6714+4038+751+48+364+204

5 1725+4163+6124+4137+6425+2813

6 746+83+209+6184+7436+5284

7 20416+3872+4103+6027+4108+37654

8 17065+409+8008+4076+3714+60060

9 20843+70064+3072+85+4106+20718

10 78408+41326+874+60084+2813+67402

B 1 37204+10837+6038+27041+6374+20208

2 41038+67214+3416+809+7041+65031

3 28416+37204+10804+4006+89+7206

4 10084+8106+8407+807+1043+287

5 7653+2807+7105+41008+4106+73

6 210643+40871+2806+410873+608+4068

7 70432+5204+3760+40273+1764+4109

8 246091+4106+4073+804176+2554+6803

9 41007+21846+3007+416+28+86714

10 37109+2008+706+23614+50084+7165

C 1 4106+30027+809+83264+7603+456

2 4234+71061+6008+407+81203+5006

3 26843+1786+849+60783+2896+463

4 38704+2006+86978+1403+2846+78899

	5	14609+3872+410+93086+20006+7084
	6	4106+38217+109+17648+3824+416
	7	4103+80067+21930+4168+723+86014
	8	36+147+43286+8006+409+80387
	9	4106+30027+809+83264+7603+456
	10	4234+71061+6008+407+81203+5006
D	1	4106+437082+41058+2746+230608+70014
	2	56082+7006+43908+40721+4167+68304
	3	26074+100843+62146+4018+70063+4109
	4	28036+141068+70426+4008+309+486107
	5	506082+86014+7380+4215+43786+1409
	6	7003+96018+24106+4038+286017+14006
	7	4078+30+52906+8007+61400+724108
	8	34006+0+42708+41896+3997+602904
	9	72068+1084+704+306+14728+4108
	10	30074+1086+732+806+38714+2407
E	1	29+304860+72005+4106+17895+306
	2	200068+7035+841+7258+416+839009
	3	40007+287+14703+4083+627+1809
	4	38705+2008+416+87+6014+30087
	5	200800+607+69014+3725+8064+70813
	6	41068+3072+415+607+30278+1073
	7	41038+3987+2065+817+36+92048
	8	50008+7003+82+14075+41038+2719
	9	80643+706+4728+306+8714+2085
	10	417206+38641+2714+809+104783+10187
F	1	27043+4106+872+4614+387+86014
	2	37208+1416+698+8394+726+8996
	3	410687+2704—80146+38274+1683+678004
	4	20084+109+8076+3541+642+84096
	5	417086+30842+7106+718648+30094+8415
	6	270684+10084+4106+837+64802+837014
	7	840386+17141+2080+409+86778+8696
	8	7604+96+908+9097+46732+1698
	9	70084+1069+708+2416+480+34806
	10	74106+1428+60084+3728+40614+8809
G	1	417384+8007+43618+208746+8143+96478
	2	24106+8417+308+6014+2174+308
	3	41068+3713+824+906+7185+38406
	4	24168+14006+8734+906+208+7416

	5	38419+1469+60824+7103+841+6987
	6	74108+3827+6008+413+8709+40602
	7	46837+3807+269+961483+80728+4106
	8	38416+2008+418+483067+20918+6432
	9	71084+1693+284+147806+84103+6082
	10	410387+2085+846+4723+612806+71038
H	1	41068+910834+72085+2063+67103+8006
	2	41062+30087+786014+23016+48+186
	3	841069+28073+4963+803+360427+410086
	4	287008+106089+403+806+81927+4038
	5	724186+141083+80709+46+3828+706
	6	724068+3709+18264+76435+87+9068
	7	341028+28416+8713+8106+31419+7004
	8	4108+68037+2084+690+76+36148
	9	410769+89643+2785+38614+6873+419
	10	74683+2069+408+23567+4106+43578
I	1	410764+20848+37612+709+80006+41732
	2	74106+2843+426048+71934+5682+714
	3	41083+2694+837+4629+51418+8463
	4	76432+18416+4173+806+296+87148
	5	2608+74132+89+64009+2708+4163
	6	8174+200846+3742+8416+307+20461
	7	2087+40168+3807+416+283+784069
	8	1874+2084+416+3087+16+482736
	9	2083+8416+39+740084+674+38208
	10	8674+209+26+418376+4108+27409
J	1	410687+2008+42003+6071084+932+186014+17634
	2	41068+2807+238614+64108+7707+406+614238
	3	341069+20084+876+18314+6528+409+3768+386014
	4	241087+41608+3074+38967+50082+6714+96483
	5	410838+1809196+770700+6806+409+69483128
	6	841768+143+40782086+641823+40187+6413+869428
	7	2680041+76809+3413+842086+7414+3640803
	8	387008+2846+4961834+100703+4682+108+38074
	9	284693+3806+9078104+300843+60608+7808+3814
	10	41086—6914837+241083+35595+7028+4380614+2840
K	1	284196+60370014+2084108+71632+409+380486+710
	2	2080746+34028+386904+72943+806+1908647+80032
	3	768409+30084+293+48167+2008+2867163+140864
	4	2410869+46183+8009927+770071+6083+804+61723

5 240836+1800718+49208+3764+8296081+41037+2108
6 68003804+4608271+60083+1827+416+273809+41086
7 38070008+886142+7707+1238064+400896+8186723
8 6841+1924807+308489+2873+68014+4106+962387
9 7684108+600812+40809+3771+9146082+800438+700
10 264030+71084+1482996+300743+2084+39046+8074
L 1 76841+4860803+209417+72416+7140038+384762+41
2 4706+6014238+308004+20075+706+1438+29374+80
3 6082+70918+419208+31867+416+614802+70384+10
4 24108+2380614+209184+7065+618032+40087+86192
5 287+6418+29003+710846+5003+892+64867+3008
6 74106+148328+60843+1420867+643829+30108+1261
7 824106+3714+608+61492+4008+46080293+7008419
8 3706+208614+7008+41968+384+609007+28416+300
9 84169+200841+6148067+341908+20693+7008+38190
10 41068+280934+3008007+410608+209+90183+708

QUESTIONS IN SIMPLE ADDITION.

A 1 Elijah prophesied 897, B.C.; how long is it since to the end of 1845?

2 In what year will a man, born in 1803 be 43 years old?

3 A boy had 347 marbles, after losing 109; how many had he at first?

4 A grocer bought 126 lbs. of tea, 1036 lbs., and 455 lbs.; how many lbs. did he buy in all?

5 A person having paid £81, £37, £51, still owed £103; how much did he owe at first?

6 If I give 56 nuts to A, 73 to B, 89 to C, and 135 to D; how many shall I give in all?

7 The lease of my house was granted in 1785 for 99 years; when will it expire?

8 Bought 4 pieces of cloth of 55, 46, 38, and 27 yards each; how many yards in all?

9 When will a man, born in 1811, be 37 years old?

10 A man has 326 apple, 139 pear, 117 cherry, and 67 peach trees; how many altogether?

B 1 From January 1st to May 26th, inclusive; how many days?

2 The length of the Volga is 2190 miles, Danube 1833, Rhine 840, Don 980, and the Thames 215; how many miles in all?

3 The Population of Wales is about 750000 ; of England, 11850000; of Scotland, 2750000; and of Ireland, 5900000; how many in all?

4 A person went to School at 6 years old, was 10 years at School, 5 years at Cambridge, 8 years travelling, and has been 35 years a Clergyman ; what is his age?

5 Four bags contained coins, the 1st 152, the 2nd 210, the 3rd 712, and the 4th 79 ; how many in all?

6 Of three bars of iron, one weighs 137 lbs., another 58 lbs., and the third 163 lbs. ; required the weight of them altogether?

7 A grocer mixes 217 lbs. of one kind of tea, 1026 lbs. of another kind, and 1303 lbs. of an inferior sort; how many pounds are there in this mixture?

8 Of five cheeses, the first weighs 13lbs, second 17 lbs., third 21 lbs,. fourth 25 lbs., and the fifth 28 lbs. ; required the weight of them altogether.

9 If I travel 75 miles the first day, 66 the second, 58 the third, 46 the fourth, and 39 the fifth ; how many miles should I travel in all?

10 A grocer bought 4 hhds. of sugar, No. 1 contained 280 lbs., No. 2, 265 lbs., No. 3, 250 lbs., No. 4, 178 lbs ; how many lbs. in all?

C 1 A person had 1750 oaks, 875 alders, 657 poplars, and 119 elms ; how many trees were there in all?

2 Find the number of shillings in a Moidore, a Guinea, a Sovereign, and a Crown, and add them together.

3 A farm produced 226 quarters of wheat, 186 of barley, 154 of oats, and 221 of peas ; how many quarters did it produce in all?

4 A person born in 1811 is 35 years old; what year is it?

5 A man had six apple trees producing respectively 365, 287, 264, 219, 208, and 197 apples ; how many in all?

6 A merchant sold 6 casks of Spirits, No. 1 held 28 gals., No. 2, 17; No. 3, 16 ; No. 4, 14 ; No. 5, 12 ; and No. 6, 9 gals ; how many gallons did the six casks contain?

7 Find the number of pence in a half-crown, and in a shilling, add 10d., 9d.. and a groat ; how many pence in all?

8 A person gave 25 oranges to A, 22 to B, 19 to C, 137 to D, and 76 to E ; how many did he give away?

9 A common was divided into four enclosures of 73 acres, 103, 84, and 136 respectively; how many acres were in the common?

10 Bought 30078 herrings, 508 eels, 104 mackerel, 97 salmon, and 25 turbot; how many in all?

SIMPLE SUBTRACTION.

No. 3.

A	1	4739623—1649738
	2	5613417—2714643
	3	7287146—5426187
	4	6172418—3741246
	5	4617327—2174165
	6	9372184—6741387
	7	41038067—38907064
	8	58296704—46900972
	9	707007416—410013816
	10	372003702—100141683
B	1	724164108—530728406
	2	80046382—4163072
	3	410370685—384172016
	4	58067024—18470841
	5	900741008—871043087
	6	410627034—287046048
	7	87143085—41070863
	8	370404609—189700613
	9	410063083—271806948
	10	720640083—120740098
C	1	410700609—341841068
	2	784000364—184000364
	3	803080706—187091809
	4	41008637—10874109
	5	7210684—1081968
	6	84106384—17600842
	7	38741069—38710843
	8	7800084—4800086
	9	3870416—2180986
	10	327840068—217006084
D	1	741008462—518309743
	2	28006418—17104109
	3	48061938—17092409
	4	41071063—18410949
	5	807106084—518193876
	6	80041087—65184109
	7	74106803—61084109
	8	28704109—18416918
	9	128400638—118700694
	10	430000718—121841069
E	1	41700068—31890069
	2	4107209—4106084
	3	755550008—456550919
	4	33332224—33321984
	5	70006664—70005949
	6	410063—410037
	7	274106983—108417416
	8	284100643—174191863
	9	22225555—12225596
	10	77744466—77684493
F	1	417060083—317000089
	2	337766446—336641087
	3	41069087—41037096
	4	4106879—3108469
	5	888741008—888684106
	6	777008416—666888419
	7	287041068—187041086
	8	38700642—12841068
	9	410638746—410508768
	10	381111000—381100919
G	1	41038769—12184106
	2	41060038—28174196
	3	41069873—12894168
	4	374108862—128410948

	5	841103874—448416938
	6	3841069—1410876
	7	768430862—618760984
	8	28410086—17410986
	9	333300086—333218096
	10	410700863—218410968
H	1	741068346—218410869
	2	382000068—182960098
	3	430862406—189100869
	4	73800462—68417086
	5	741068329—680910846
	6	28064103—18410837
	7	41080684—38091876
	8	800041061—700040068
	9	410760832—410368069
	10	378406824—146837643
I	1	217841069—109841608
	2	41086932—17191896
	3	678432846—417680984
	4	714382696—684391748
	5	41069307—21879364
	6	84369241—74684609
	7	173056997—173014698
	8	583741006—410684009
	9	287410863—141086974
	10	28741069—14837468
J	1	41069238—17094106
	2	7300846—7300149
	3	68423847—14106986
	4	41060084—41018693
	5	270084106—184096087
	6	410684 93—410387169
	7	76841308—51841968
	8	2410698—1841069
	9	38007416—14108408
	10	20084006—20071084
K	1	34000486—21800564
	2	41000086—32000097
	3	268400684—141084169
	4	37008469—14108693
	5	728410698—410160849
	6	38406084—14108416
	7	41068008—21084009
	8	74106843—74101897
	9	21008406—198409
	10	1380768—184009
L	1	600841083—410618096
	2	74100836—56184196
	3	30084109—10091806
	4	72410084—41018416
	5	380741084—341060832
	6	74106006—41008009
	7	10000000—100901
	8	12700608—12410904
	9	41000839—21046083
	10	132184006—132181684

QUESTIONS IN SIMPLE SUBTRACTION.

A 1 A boy had 375 nuts, he lost 189; how many had he left?

2 Coaches were first used in 1580; how many years is it to 1846?

3 Printing was invented in 1449; how many years is it to 1846?

4 A boy had 306 marbles in two bags: there were 109 in the one; how many in the other?

5 A person born in 1769 died in 1840; how old was he?

6 Two pockets of hops weighed 341 lbs., the weight of one was 189 lbs.; what did the other weigh?

7 Gunpowder was discovered in 1302; how long is it to 1846?

8 A Grocer bought two chests of tea, weighing together 123 lbs., one weighed 72 lbs.; what was the weight of the other?

9 How old is a person born in 1792 in 1846?

10 The University of Oxford was founded A.D. 896; how many years is it to 1846?

B 1 The average value of exports for several years amounted to £17063843, and the value of imports to £1148032; required the difference.

2 A person owing £4003, paid at one time £760, and at another 2004; how much does he still owe?

3 Required the difference between 10080067 and 7302084.

4 The University of Cambridge was founded A.D. 915; how many years is it to 1846?

5 The height of Mont Blanc is 15680 feet, and of Chimborazo 21427; which is the highest and by how much?

6 The allied army at Waterloo amounted to 80000 men; that of the French to 130000; what was the difference in number?

7 St. Paul's Cathedral was began in 1675 and finished in 1710; how many years was it in building?

8 The Royal Exchange was built by Sir Thomas Gresham in 1566, and burnt down in 1666; how many years did it stand?

9 The above was rebuilt in 1669, and destroyed again by fire in 1838; how many years did it stand this last time?

10 St. Paul's is 404 feet high, the Monument 202 feet; how much higher is the former than the latter?

C 1 The British Museum was established by Act of Parliament in 1753; how many years to 1846?

2 Blackfriars Bridge is 995 feet in length, Westminster Bridge is 1223, by how many feet does the latter exceed the former?

3 The Free Grammar School of King Edward the Sixth in Birmingham, was founded in 1552; how many years is it since to 1846?

4 Gibralter was taken by Sir George Rooke in 1704; how many years since to 1846?

5 The length of the Thames is 215 miles, that of the Severn 350; by how many miles does the latter exceed the former?

6 The authorised version of the Old Testament contains 592439 words, and the New 181253; by how many does the former exceed the latter?

7 A person bought 3008 yards of silk, and sold to one person 1709 yards, and to another 856 yards; how many yards has he left?

8 There are in the English version of the Old Testament 23214 verses, and 7959 in the New; by how many does the Old exceed the New?

9 Bells were invented in A.D. 420; how long have they been in use this being 1846?

10 The great Fire of London happened in 1666; how long is it since to 1846?

SIMPLE MULTIPLICATION.

No. 4.

A 1	410896389×2	C 1	80709×46
2	307400645×3	2	208354×58
3	489089168×4	3	706380628×67
4	758410684×5	4	46082027×75
5	807410869×6	5	6874189×87
6	384108706×7	6	28406067×95
7	241068439×8	7	808072418×98
8	410950058×9	8	410062372×107
9	720460843×10	9	48806097×273
10	840684187×11	10	47680938×476
B 1	741086209×12	D 1	7410069×507
2	41768324×6	2	160084763×60084
3	74287936×7	3	2807605×608
4	28413764×9	4	6700854×750
5	14274683×11	5	79846089×608
6	72418675×12	6	341038692×789
7	87643927×8	7	41069843×4018
8	2073046×17	8	38095609×5803
9	374087×26	9	384169083×6075
10	4037086×37	10	76800463×34107

E 1	47683284×8	I 1	297653486×79354
2	76949083×11	2	3835478705×2089
3	21068406×12	3	509387298×74362
4	710984693×9	4	983765218×793654
5	74096843×12	5	497695834×85429
6	76820846×17	6	765493879×576492
7	68410986×25	7	120952628×54340
8	78900843×37	8	2569835204×2543
9	741069849×46	9	980325469×82639
10	728069384×58	10	704328956×96532
F 1	26841096×67	J 1	587652384×42654
2	741069846×79	2	829765183×624368
3	841069284×86	3	278345953×805329
4	37068497×98	4	450476893×75298
5	3584106×97	5	283948797×65842
6	76841068×109	6	935427658×280495
7	387528069×208	7	293874652×786054
8	410687386×306	8	389756402×30084
9	2410698×476	9	843569428×754396
10	74106843×509	10	804326954×072684
G 1	284996867×673	K 1	28426950×76
2	410690873×769	2	768429430×934
3	62809419×8504	3	65209477×5406
4	41062837×908	4	18304209×7899
5	641068732×765	5	76940210×13579
6	41069836×879	6	243096259×2468
7	7410938×4963	7	804020603×36948
8	78410968×5068	8	45623178×7980
9	78069438×57068	9	924832603×78413
10	410968734×68909	10	23431666×184504
H 1	826341792×2348	L 1	8243625×210435
2	9582617043×2465	2	118432631×15521711
3	940602536×18743	3	410063089×41008
4	548632157×2765	4	860300753×60507
5	460835929×40289	5	287040683×90847
6	5432876542×7896	6	690087003×70080
7	596834527×95432	7	806902476×50580
8	495960432×8425	8	208769503×69008
9	943215786×37952	9	8400693×80069
10	824965342×93570	10	94100608×37009

M 1	700680309×60037	6	370204163×67054
2	81006003×67009	7	208007036×50009
3	7506403×900806	8	779068031×81018
4	230808005×41006	9	20087608×900907
5	800068008×707066	10	85107025×37056

QUESTIONS IN SIMPLE MULTIPLICATION.

A 1 How many panes of glass in a window ten panes in length and six in breadth?

2 Sound travels 1142 feet in a second; how far will it travel in 25 seconds?

3 How many oranges must I have to give 23 boys 11 each?

4 If a person's pulse beat 3796 times in an hour; how many times will it beat in a natural day?

5 A person lays by £5 a week; how much does he save in the year?

6 If the 12th part of a number be 7603, what is the number?

7 The weight of a sack of flour is 280lbs; how many pounds are there in 29 sacks?

8 A house is rented at £24 a year; how much will be the rent for 17 years?

9 If the multiplicand be 108763, and the multiplier 907; what will be the product?

10 In a school of 215 boys, how many sums can be worked in an hour, supposing each boy to work on an average 9 sums?

B 1 How many quarters of corn in 29 waggons, each containing 45 quarters?

2 How many miles can I walk in 313 days, at 17 miles per day?

3 In a manufactory, 135 gross of buttons are made daily; how many in 9 months of 24 days each?

4 If a boy point 14500 pins in an hour; how many will he point in 6 days of 10 hours each?

5 How many trees in 37 rows of 867 in a row?

6 If 208 nuts fill a pint; how many will fill 69 pints?

7 In a book of 175 pages, with 54 lines in a page, and 48 letters in a line; how many letters?

8 How many bushels of wheat will grow upon 113 acres, if one acre will produce 13 bushels?

9 Multiply 760800 by 760800?

10 How many seeds can be produced from a plant which bears 13 stalks, each stalk 13 flowers, and each flower 57 seeds?

C 1 How many cubic feet are there in a block 25 feet long, 13 broad, and 9 deep?

2 Of 13 bales of cloth, each bale contains 35 pieces, and each piece 27 yards; how many yards were there?

3 A room measures 23 feet by 16, how many square feet does it contain?

4 A wall of bricks is 577 long and 55 broad; how many bricks in the whole?

5 What is the area of a close 137 yards long by 126 broad?

6 If a weight be raised 12 feet in a minute, required the height in an hour?

7 How many cwt. of coals are burnt in a year at the rate of seven cwt. per day?

8 A person's daily income is £11; how much is that per year?

9 If an engine travels 47 miles in an hour; how many miles in 29 hours?

10 A person began business with £2500, he cleared every year for 21 years £455; how much was he worth at the end of the above time?

SIMPLE DIVISION.

No. 5.

A 1	280641068÷2	3	841963423÷7
2	384103848÷3	4	74165246÷8
3	410700841÷4	5	6873134÷9
4	624108368÷5	6	41123041÷11
5	410683219÷6	7	642737416÷12
6	708410684÷7	8	470362508÷18
7	604108413÷8	9	307204615÷23
8	410533308÷9	10	27068403÷28
9	777666555÷10	C 1	7643258÷31
10	808706009÷11	2	64200372÷36
B 1	410869306÷12	3	704180628÷43
2	742684367÷6	4	417006257÷54

5	271608409÷67
6	280741348÷72
7	3426837÷89
8	471086÷109
9	76040418÷132
10	410637284÷144
D 1	768437206÷176
2	837042085÷184
3	480632708÷276
4	8 7410693÷364
5	274108469÷376
6	72084107÷416
7	91083246÷458
8	741063842÷2493
9	410683276÷4546
10	280741008÷6568
E 1	410087006÷7
2	28064108÷8
3	300741862÷9
4	721400683÷11
5	6008176÷12
6	204608078÷17
7	418407064÷28
8	720164206÷37
9	6000841÷36
10	800741064÷46
F 1	20802802÷54
2	706706706÷57
3	20840648÷63
4	70084216÷79
5	808008807÷88
6	27140816÷107
7	404000408÷256
8	372841694÷364
9	70021846÷415
10	841084627÷468
G 1	2067083÷581
2	707776006÷639
3	414101065÷673
4	280006416÷768

5	72184649÷817
6	706842106÷4076
7	284006874÷5708
8	860707418÷6842
9	200641837÷27089
10	641874006÷38704
H 1	41069832÷186
2	874106937÷89
3	410837041÷246
4	410698309÷8
5	768041238÷76
6	410809003÷289
7	84106938÷9
8	780684106÷29
9	608410638÷386
10	74106832÷12
I 1	410869387÷186
2	768032419÷2874
3	41068709÷89
4	768410698÷186
5	410692876÷374
6	410698321÷12
7	768410386÷65
8	28410968÷376
9	410682376÷11
10	641083296÷75
J 1	410698419÷385
2	241684374÷4187
3	764137248÷896
4	672843614÷3874
5	827006418÷5068
6	218768436÷6702
7	841738084÷7416
8	286410873÷3874
9	810741682÷65043
10	284176438÷74168
K 1	976473201÷13
2	47329536÷9
3	3562471÷253
4	5943642÷47

5	63047843÷793	8	243126309÷12454
6	934561502÷436	9	396084217÷3952
7	36521784÷1562	10	14860178÷6304
8	987423625÷539	M1	317089836÷49763
9	378632045÷27	2	41507792÷1736
10	49062092÷376	3	179504497÷94327
L 1	356294569÷236	4	991756÷4167
2	630746290÷1984	5	456903017÷379
3	370394253÷1483	6	1476954÷7346
4	19367418÷294	7	97645899÷3275
5	78436157÷3062	8	4177631÷3914
6	1934306÷4862	9	2728139648÷4736
7	209375146÷34967	10	306495278÷48762

QUESTIONS IN SIMPLE DIVISION.

A 1 If the dividend be 8974469504 and the quotient 128128; what is the divisor

2 A garden containing 1855 square yards is 35 yards broad; what is the length?

3 How many deaths happen yearly in England supposing its population last census 12080384, and one out of 32 to die annually?

4 There are 1500 men in a regiment, of whom 75 are officers; how many privates are there to each officer?

5 A plantation held 306225 trees in 75 rows; how many in each row?

6 Thirty seven casks contained 273911 herrings; how many in each cask?

7 Twelve persons bought seven chests of tea, each weighing 420lbs.; what was each person's share?

8 If a person's income be £9125 yearly; how much is that per day?

9 Divide £1036 into 28 equal shares.

10 Divide a bag of marbles containing 3924 equally between 36 boys; how many will each have?

B 1 How many casks each holding 108 gallons can be filled out of 2916 gallons of ale?

2 If a steam carriage goes 756 miles in eighteen hours; what is the rate per mile?

3 A carpet 35 feet long contains 875 square feet; how broad is it

4 A ship sailed 1680 miles in four weeks; what is that per day?

5 If a cistern contains 1800 gallons of water; in how long will a pipe discharging 15 gallons an hour empty it?

6 If 18620 bushels of potatoes be divided among 245 men; what will be each man's share?

7 In how many days will a ship go 2560 miles at five miles an hour?

8 What is the difference between the 12th part of 8748 and the 8th part of 6408?

9 A circle round the earth measures 24962 miles; in how long will a ship sail round it at seven miles an hour?

10 If the wheel of a coach turns round 23302 times in 17 hours; how many times is that per hour?

C 1 A grocer wishes to make 2660 lbs. of sugar into parcels of 35 lbs. each; how many parcels will he have?

2 How many bottles of 13 quarts each can be filled from 338 quarts of rum?

3 Out of ten pieces of cloth measuring together 555 yards; how many dresses of 15 yards each may be made?

4 If 789360 bricks will build a wall 880 yards long; how many are there in each yard?

5 Find how many oranges I must give to 39 persons, to share 754 equally among them.

6 A piece of beef weighed 37 lbs.; how many portions of eight ounces each may be cut from it?

7 If I burn 9 cwt. of coals weekly; how long would 27 tons last?

8 How many loaves each 17 lbs. can be made from 4760 lbs. of flour?

9 A book contains 10764 lines, and 46 lines in a page; how many pages are there?

10 If 207320 gross of steel pens be made in a year; how many gross is that per day?

REDUCTION.

No. 6.

A 1 Reduce £87 16s. 10¾d. to farthings.

2 .... £109 10s. 0d. to sixpences.

3 Reduce 307 gui. 13s. 2d. to twopences.
4 .... 109 moi. 8s. 2½d. to halfpence.
5 .... £308 10s. 4d. to groats.
6 .... 1000 guineas to threepences.
7 .... £907 10s. to halfcrowns.
8 .... 387 gui. 17s. 3d. to threepences and farthings.
9 .... 301 moi. 9s. 8½d. to groats and halfpence.
10 .... 583 gui. 11s. 6d. to sixpences.
B 1 .... £908 10s 6½d. to crowns, sixpences, and halfpence.
2 .... 57 moi. 23s. 8½d. to groats and halfpence.
3 .... 411 gui. 19s. 2d. to twopences and farthings.
4 .... £216 5s. 3½d. to crowns, and halfpence.
5 .... £8076 2s. 6d. to halfcrowns.
6 In 84106 farthings, how many pounds?
7 „ 38704 halfpence, how many guineas?
8 „ 100753 farthings, how many moidores?
9 „ 7653 twopences, how many pounds?
10 „ 8100 threepences, how many guineas?
C 1 „ 41006 sixpences, how many moidores?
2 „ 3872 half crowns, how many guineas
3 „ 81068 groats, how many pounds?
4 „ 5874 farthings, how many pounds?
5 „ 81763 farthings, how many half guineas?
6 „ 7056 half crowns, how many moidores?
7 „ 80763 half pence, how many pounds?
8 „ 38704 farthings, how many guineas?
9 „ 3807 groats, how many guineas?
10 „ 41073 threepences, how many moidores?
D 1 Change 3703 guineas to pounds.
2 .... 7018 pounds to moidores.
3 .... 3872 seven shilling pieces to half guineas.
4 .... 40083 crowns to guineas.
5 .... 2871 groats to eighteen penny pieces.
6 .... 5684 half crowns to three shilling pieces.
7 .... 2085 half guineas to seven shilling pieces.
8 .... 3843 guineas to moidores.
9 .... 5307 groats to sixpences.
10 .... 2873 eighteen penny pieces to crowns.
E 1 .... 3017 crowns to seven shilling pieces.
2 .... 5832 guineas to moidores.

3 Change 8013 half guineas to pieces, each 6s. 8d.
4 .... 3705 guineas to marks, each 13s. 4d.
5 .... 2806 half guineas to half sovereigns.
6 .... 3871 three shilling pieces to crowns.
7 .... 4006 seven shilling pieces to crowns.
8 .... 928 moidores to pounds.
9 .... 3070 half guineas to pieces, each 4s. 6d.
10 .... 375 crowns to pieces, each 2s. 3½d.

F 1 In 43 moidores, as many guineas, pounds, crowns, half-crowns, and groats; how many pounds sterling?
2 Reduce £708 10s. 8d. to crowns and groats.
3 In 8403 crowns, how many guineas?
4 In an equal number of guineas, pounds, crowns, and half crowns, making £220 13s. 6d.; how many of each sort?
5 In 21 purses, each containing a guinea, a sovereign, a crown, and a groat; how many pounds and farthings?
6 Reduce 29 gui. 17s. 6d. to sixpences.
7 In 9417 twopences, how many pounds?
8 Express in halfpence, £78 16s. 10½d. — £59 17s. 4d.
9 Reduce £746 16s. 8¼d. $\frac{3}{5}$ to fifths of a farthing.
10 In 41060 fifths of a farthing; how many guineas?

G 1 How many crowns, half crowns, shillings, and pence, taking of each an equal number, amount to £73 10s. 6d.?
2 In 8437 threepences, how many moidores?
3 Reduce £87 15s. 2d. to crowns and twopences.
4 Convert 763 seven shilling pieces into half guineas.
5 In 841069 farthings, how many moidores, guineas, pounds, crowns, and groats, taking of each an equal number?
6 In £100 2s. how many guineas, half guineas, and seven shilling pieces, taking of each an equal number?
7 Ten men-exchanged £16 5s. 6d. each, for guineas; how many did they receive?
8 In 41068 eighths of a farthing, how many pounds?
9 Reduce 401 gui. 10s. 8¼d. $\frac{4}{5}$ to eighths of a farthing.
10 Convert 374 halfcrowns into three shilling pieces.

H 1 An equal number of moidores, guineas, ½ guineas, and ½ crowns, amounted to £70. 3s.; how many of each sort?
2 Convert 479 groats into threepences.
3 In 4271 sixpences, how many guineas?
4 Change 406 pieces, each 3s. 4½d., into half guineas,

5 In 444 quarter guineas, how many crowns?

6 Reduce 74 gui. 16s. 8½d. to groats and halfpence.

7 In 37 purses, each containing a moidore, a guinea, a ½ guinea, and a crown; how many pounds and sixpences?

8 In 41063 dollars, each 4s. 6d., how many pounds?

9 In 51706 moidores, how many dollars?

10 In 4063 pistoles, each 17s. 6d., how many guineas?

I 1 In 7284 florins, each 3s. 2d., how many pounds?

2 How many crowns, ½ crowns, shillings, groats, and threepences, taking of each an equal number, amount to £16. 16s. 1d.?

3 How many farthings are there in 777 half guineas?

4 Convert 743 half guineas into pounds.

5 How many groats, threepences, pence, and farthings, taking of each an equal number, in 15s. 9½d.?

6 In 416 guineas, how many pieces, each 13s. 2½d.?

7 In 3804 crowns, how many pieces, each 7s. 6d.?

8 Convert 809 seven shilling pieces into half guineas.

9 In 14 purses, each containing a crown, a ½ crown, a shilling, and threepence, how many threepences?

10 Reduce 309 moi. 10s. 8d. to twopences.

J 1 Reduce £804 15s. 2½d. ⅞ to eighths of a farthing.

2 Reduce 467 gui. 13s. 4⅝d. to eighths of a penny.

3 Reduce 376 moi. 14s. 8⅞d. to eighths of a penny.

4 In 410688 eighths of a penny, how many pounds?

5 In 37105 fifths of a penny, how many guineas?

6 In 810432 eighths of a farthing, how many moidores?

7 Change 3249 sixpences, to ½ guineas, ½ sovereigns, crowns, ½ crowns, and sixpences, taking of each an equal number.

8 Convert 4872 pieces, each 1s. 6d., into crowns.

9 Reduce £303 15s. 6½d. to sixpences and half pence.

10 Change 4807 half guineas into seven shilling pieces.

K 1 In 17 purses, each containing 10s. 6d., 2s. 6d., 1s., and 1d.; how many pence?

2 Convert 416 moidores into guineas.

3 An equal number of moidores, guineas, pounds, ½ guineas, ½ sovereigns, and ½ crowns, amount to £468 13s.; how many of each sort?

4 In 41068 halfpence, how many guineas, pounds, crowns, and ½ crowns, taking of each an equal number?

5 In 28469 pieces of 3s. each, how many ½ guineas, ½ sovs., ½ crowns, and twopences, of each an equal number?

6 Gold coins 27s. each, silver 7s. each, and copper 1d. each, made up £98 16s. 10d. The number of each was equal; what was it?

7 Changed £63 10s. 10d. for pieces of 15d., 13d., 12d., 8d., 6d., 4d., and 3d. each how many in all?

8 Distributed 189 pieces of each of the following values, viz. 2s. 6d., 1s. 3d., 10d., 4d., and 2d. Give the whole value.

9 In 378 half guineas, as many half sovereigns, half crowns, and groats; how many pounds?

10 Divided £12 2s. 8d. To certain men 2s. 8d. each, as many women 1s. 4d. each, as many children 4d. each. How many persons in all?

L 1 Reduce 75 yds. 2ft. 4in. 1 b.c. to barley-corns.

2 In 41068 inches, how many furlongs?

3 Reduce 3 m. 5 fur. 16 p. 3 yds. to yards.

4 In 410683 yards, how many furlongs and miles?

5 Reduce 3 lea. 1 m. 7 fur. 28 p. to poles.

6 In 241086 poles, how many leagues?

7 Reduce 8 m. 1 fur. 25 p. 3 yds. to feet.

8 In 6074136 barley-corns, how many miles?

9 Reduce 37 m. 5 fur. 34 p. 2 yds. 2 ft. 8 in. to inches.

10 In 4106832 inches, how many leagues?

M 1 In walking 20 miles, how many times will my walking stick touch the ground, supposing it to do so once in every 2½ feet?

2 How many times will a wheel, 16½ feet in circumference, turn round in 26 m. 7 fur. 11 p. 2 yds. 2½ feet?

3 Reduce 36 lea. 2 m. 6 fur. 24 p. 3 yds. 1 ft. 9 in. to inches.

4 In 70168324 barley-corns, how many leagues?

5 From Dover to Calais is 21 miles; how many boats, each 22 feet in length, would be required to form a bridge between the two places?

6 The forewheel of a coach is 10 feet in circumference, the hind wheel 16½ feet; how many times will the one turn round more than the other in 50 miles?

7 The wheel of a coach, 16½ feet in circumference turns

round 1093 times between two places; what is the distance between them?

8 How many barley-corns will reach 56 m. 4 fur. 20 p.?

9 In 376083 inches, how many miles?

10 How many furlongs in 3300 feet?

N 1 Required the circumference of a wheel revolving 18200 times in 35 miles.

2 Reduce 47 m. 375 yds. 3 in. to inches.

3 Reduce 7 fur. 145 yds. 1 ft. to barley-corns.

4 In 308741 inches, how many miles?

5 If the driving wheel of an engine be 16 feet in circumference, and one of the carriage wheels 10 feet; how many revolutions will one wheel make more than the other in 150 miles?

6 A railway carriage moves 45 feet in a second; at what rate in miles is that per hour, and per day of 12 hours?

7 Reduce 37 lea. 0 m. 1408 yds. to feet.

8 From Birmingham to London 112¾ miles, how many inches?

9 The piston of a steam engine moves at the rate of 200 feet per minute; what is the rate in miles per day of 12 hours?

10 From Dublin to Cork is 130 miles, how many inches?

O 1 If on an average I step 2½ feet; how many steps do I take in 25 miles?

2 In 8410634 inches, how many leagues?

3 Required the circumference of a wheel, turning 4869 times in 15 m. 5 fur. 16 p. 3 yds.

4 A wheel, 14 feet in circumference, turns round 26400 times; how many miles of ground will it run over?

5 Reduce 470 m. 3 fur. 148 yds. to feet.

6 Reduce 75 degrees, of 69½ miles each, to feet.

7 In 5504400 feet, how many degrees of 69½ miles?

8 If the driving wheel of an engine make 99000 revolutions, and the carriage wheel 158400, in 300 miles; required the circumference of each wheel.

9 If the diameter of a penny be 1¼ inches; how many penny pieces will reach 100 miles?

10 Reduce 2 m. 4 fur. 28 p. to fathoms.

P 1 If *from London* to Edinburgh be 389 m. 6 fur. 20 p.; how

long would a person be in walking that distance at 3½ m. 3 fur. 20 p. daily?

2 How many crown pieces, the diameter of each being 1½ inches, would reach 360 degrees of 69½ miles each?

3 In 3080 fathoms, how many miles?

4 If the fore wheels of a coach make 26400 turns, and the hind ones 16000, in 50 miles; required the circumference of each wheel.

5 In walking from Birmingham to Coventry, I took 38016 steps of 2½ feet each; how many miles did I walk?

6 In 8413 nails, how many yards?

7 Reduce 37 English ells 3 qrs. 1 n. to nails.

8 In 4137 nails, how many English ells?

9 In 8103 nails, how many French ells?

10 Bring 711 English ells to yards.

Q 1 Bring 408 yards to English ells.

2 In 316 French ells, how many yards?

3 In 1413 Flemish ells, how many French ells?

4 In 4087 nails, how many French ells?

5 Reduce 37 yds. 3 qrs. 1 n. 1 in. to inches.

6 Reduce 51 English ells 2 qrs. 3 n. 2 in. to inches.

7 Reduce 33 French ells 0 qrs. 1 n. to inches.

8 In 74136 inches, how many English ells?

9 In 743 yards, how many Flemish ells?

10 How many coats, each containing 2 yds. 3 qrs., can be made out of 605 yards of cloth?

R 1 How many jackets, each containing 1 yd. 3 qrs., can be made from 33 English ells 3 qrs. of cloth?

2 Find the difference in nails between 46 yds. 2 qrs. 3 n., and 37 French ells 5 qrs. 1 n.

3 Supposing that a coat takes 2 yds. 1 qr., a waistcoat 3 qrs. 1 n. and a pair of trousers 1 yd. 2 qrs. 2 n.; how many suits may be made from 35 pieces of cloth each piece measuring 15 yards?

4 How many sheets can be made from 8 pieces of Irish linen, each piece being 30 yards long; allowing each sheet to contain 3 breadths of cloth, and to be 2½ yards in length?

5 How many yards of cloth will make coats for 600 soldiers, allowing 2 French ells 3 qrs. to each coat?

6 Reduce 33 a. 2 r. 28 p. to perches.
7 In 410867 square yards, how many acres?
8 In 81076413 square inches, how many perches?
9 Reduce 25 a. 1 r. 34 p. 28 yds. 5 ft. 110 in. to inches.
10 A field containing 8 acres 4545 yds. is to be divided into allotments of 16 p. 25 yds. each; how many may be made from it?

S 1 A common, containing 375 acres, is to be divided into enclosures of 480 perches each; how many may be made from it?
2 How many allotments, each containing 8 p. 22 yds., can be made from a field of 14 a. 1 r. 24 p.?
3 A farmer sold 7 a. 3 r. 22 p. of land from a close containing 35 a. 1 r. 18 p.; how many perches had he left?
4 How many square inches are there in 5 square miles?
5 In 28101427200 square inches, how many square miles?
6 In 8410637 cubic inches, how many cubic yards?
7 Reduce 75 cu. yds. 21 ft. 308in. to cubic inches?
8 In 739584 cu. inches, how many tons of shipping?
9 How many solid inches are there in 4 tons 30 feet of hewn timber?
10 How many solid inches are there in 3 tons 15 feet of unhewn timber?

T 1 In 841006 pounds, how many tons?
2 Reduce 37 cwt. 3 qrs. 18 lbs. to pounds.
3 In 1076438 ounces, how many cwt?
4 Reduce 18 cwt. 16 lbs. 10 oz. 8 drs. to drams.
5 In 38764109 drams, how many tons?
6 In 410683 drams, how many stones?
7 Reduce 37 cwt. 0 qr. 16 lbs. 8 oz. to drams.
8 Reduce 3 tons 10 cwt. 1 qr. 11 lbs. 3 oz. to ounces.
9 In 141073 ounces, how many cwt.?
10 Reduce 3 qrs. 18 lbs. 15 oz. 6 drs. to drams?

U 1 How many slices, each $1\frac{1}{4}$ oz., can be cut from 3 cheeses each weighing 14 lbs.?
2 How many canisters of tea, each holding $14\frac{1}{4}$ lbs., can be filled out of 3 cwt. 0 qr. 6 lbs?
3 In 41073 stones, how many tons?
4 Reduce 13 tons 17 cwt. 0 qr. 8 lbs. to pounds.
5 How many parcels, each weighing 3 qrs. 4 lbs., can be made out of 7 cwt. 3 qrs. 12 lbs.?

6 How many boxes of raisins, each 16 lbs. 6 oz., can be filled out of 1 ton 12 cwt. 3 qrs.?

7 In 8410376 drams, how many tons?

8 Reduce 23 tons 17 cwt. 1 qr. 0 lbs. 14 oz. to ounces?

9 How many bars of iron, each weighing 1 qr. 17 lbs., can be made from 44 cwt. 2 qrs. 11 lbs?

10 In 4106328 ounces, how many tons?

V 1 A grocer wishes to weigh up 8 cwt. 2 qrs. 20 lbs. of sugar into an equal number of parcels of 4 lbs., 6 lbs., 8 lbs., 10 lbs., 12 lbs., and 14 lbs. each; what number of each, and how many in the whole?

2 In 5 cwt. 3 qrs. 16 lbs. avoirdupois, how many pounds troy; if a lb. avoirdupois be equal to 14 oz. 11 dwt. 16 grs. troy?

3 Reduce 76 cwt. 0 qr. 8 lb. 13 oz. 8 dr. to drams.

4 In 4107630 fifths of a dram, how many cwt?

5 Reduce 35 tons 16 cwt. 1 qr. 11 lbs. $8\frac{7}{8}$ oz. to eighths of an ounce.

6 How many hhds., each $12\frac{1}{2}$ cwt., in 526400 lbs?

7 Bought 26 hhds. of sugar, each weighing 968 lbs.; how many cwt. in the whole?

8 Bought 16 pockets of hops, each weighing 3 cwt. 17 lbs., and another weighing $227\frac{1}{2}$ lbs,; how many cwt. and lbs. in the whole?

9 In 41068436 drams, how many tons?

10 Reduce 303 tons 16 cwt. 0 qr. 23 lbs. to pounds.

W 1 Find the difference in drams, between 3 tons 13 cwt. 3qrs. 11 lbs. and 2 tons 16 cwt. 0 qrs. 16 lbs. 4 oz. 14 drs.

2 In 1 cwt. 2 qrs. 13 lbs., how many parcels, each weighing $\frac{1}{4}$ a lb?

3 In 84163 stones, how many tons?

4 Reduce 76 cwt. 3 qrs. 1 st. to stones.

5 How many parcels of 2 lbs., 3 lbs., 4 lbs., and 6 lbs. each, can be made from 3 cwt. 3 qrs. of tea, and of each an equal number?

6 How many parcels, and of each an equal number, of $\frac{1}{4}$lb., $\frac{1}{2}$ lb., and $\frac{1}{4}$ lb., can be made from 8 cwt. 2 qrs. 20 lbs. of tobacco; and how many in the whole?

7 Reduce 303 cwt. 0 qr. 1 st. 8 lbs. to pounds.

8 How many stones in 41068 drams?

9 How many parcels, of 1¼ lbs., 1½ lbs., 1¾ lbs., and 2 lbs. each, can be made from 8 cwt. 1 qr. 12 lbs., there being an equal number of each; and how many altogether?

10 How many pounds troy in 8 cwt. 0 qr. 16 lbs. avoirdupois, if a lb. avoirdupois be equal to 14 oz. 11 dwts. 16 grs. troy?

X 1 A sack of flour weighs 280 lbs. how many loaves of 2 lbs. 3 lbs., 4 lbs., and 5 lbs. each, can made from it?

2 Twenty-six cheeses weigh together 1 cwt. 20¼ lbs.; how many pieces of ¼ lb., ½ lb., ¾ lb., 1½ lb. and 2¾ lbs. each, may be cut from them?

3 How many canisters of tea can be filled out of 4 cwt. 3 qrs. 26 lbs., the canisters holding respectively 2 lbs., 3 lbs., 6 lbs., and 7 lbs., and there being an equal number of each?

4 In 410683 ounces, how many stones and cwts.?

5 Reduce 37 cwt. 3 qrs. 0 st. 12 lbs. to drams.

6 Reduce 58 lbs. 11 oz. 14 dwts. 13 grs. to grains.

7 In 840067 grains, how many pounds?

8 How many watch-cases, each weighing 2 oz. 10 dwts., can be made out of 9 lbs. 4 oz. 10 dwts of silver?

9 How many snuff boxes, each weighing 5 oz. 8 dwts. 12 grs., can be made out of 11 lbs. 9 oz. 1 dwt. of gold?

10 How many dozen of spoons, each dozen weighing 6 oz. 11 dwts. 9 grs., can be made from 21 lbs. 3 oz. 7 dwts. 9 grs. of silver?

Y 1 Reduce 7 lasts, 10 sacks, 1 wey, 4 tods, 24 lbs. to pounds.

2 In 1084637 pounds, how many lasts?

3 Find the number of packs in 28080 pounds of wool.

4 In 841063 grains how many pounds?

5 Reduce 376 lbs. 8 oz. 5 drs. 1 sc. 14 grs. to grains.

6 How many parcels of 9 oz. each, can be made from 19 lbs. 6 oz. of bark?

7 Required the difference in grains, between 7 parcels, each of 4 lbs. 3 oz. 4 drs., and 9 parcels, each of 3 lbs. 11 oz. 7 drs. 2 sc. 15 grs.

8 Reduce 17 gals. 5 pts. 10 oz. 6 drs. to minims.

9 In 2307621 minims, how many gallons?

10 In 4108 drams, how many gallons?

Z 1 In 410637 pints of wine, how many hogsheads?

2 Reduce 34 tier. 26 gals. 3 qts. to pints.

3 How many ¼ pt. ½ pt. ¾ pt. and 1 pt. bottles can be filled out of 15 gallons of brandy?

4 How many puncheons in 180643 pints of wine?

5 Out of 7 hhds. 31 gals. 2 qts of wine, how many dozen of quart and pint bottles can be filled, so as to have an equal number of each?

6 Reduce 301 hhds. 37 gals. 1 qt. of ale to pints.

7 In 252 barrels of ale, how many hhds. and pints?

8 How many firkins, kilderkins, and barrels, and of each an equal number, can be filled from a brewing of 72 hhds. 31 gals. 2 qts.?

9 In 41038 pints, how many barrels of ale?

10 Reduce 4 pipes 1 hhd. 30 gals. 3 qts. of ale to quarts.

A 2 1 Reduce 55 qrs. 7 bush. 3 pks. to gallons.

2 In 741060 pints, how many quarters?

3 How many horses will eat 1 last. 1 wey. 2 qrs. 4 bush. of oats, allowing half a peck to each?

4 In 84106 gallons, how many lasts?

5 How many barley corns will fill a bushel, supposing 1756 to fill a pint?

6 In 84103 pecks of coals, how many chaldrons?

7 Reduce 120 ch. 18 bush. 3 pks. to pecks.

8 How many sacks of 3 bush. each, are there in 78 chaldrons?

9 In 41063 sheets of paper, how many reams?

10 Reduce 23 reams, 15 quires, 15 sheets, to sheets.

B 2 1 How many books, containing respectively 2, 3½, 4¼ and 6 quires, can be made from 47 reams, 10 quires, 6 sheets?

2 Reduce 75 days 13 hrs. 24 m. 38 sec. to seconds.

3 In 8410693 seconds, how many days?

4 From January 19th to July 26th, 1845, how many days and seconds?

5 Reduce 63 yrs. 12 months 3 weeks, 4 days to days.

6 In 8410693 minutes, how many months and years?

7 From November 8th, 1844, to April 17th, 1845, how many days, hours, minutes, and seconds?

8 How many minutes has a boy 15 years old lived?

9 How many times does a clock strike in three years of 365 days each?

10 In 15 yrs. 8 mths. 3 wks. 20 hrs. how many hours?

C 2 1 London was supposed to be built 1108 years B.C.; how many hours since to the end of 1845?

2 From the birth of our Saviour, to the end of the year 1845, how many seconds?

3 How many hours from May 20th, to December 26th, of the same year?

4 What is the exact length of the solar year, of 31556928 seconds?

5 A person born 2749 years B.C., how minutes since to the end of 1845?

6 Find the difference in hours between 7 yrs. 11 mths. 3 wks. 6 days 9 hrs., and 6 yrs. 8 mths. 2 wks. 4 days 12 hrs.

7 How many hours and seconds are there in the last eight months of the year?

8 How many seconds has a boy lived, who is 9 yrs. 9 months and 3 weeks old?

9 Methuselah lived 969 years, how many seconds?

10 How many seconds in a lunar month of 28 days?

D 2 1 How many minutes in the first 7 months of the year 1844?

2 Reduce 365 days 5 hrs. 48 m. 48 sec. to seconds.

3 From Feb. 11th, to Dec. 10th, 1844, how many days?

4 In 84106008 seconds, how many years?

5 Find the vibrations of a pendulum in a year, it making sixty-five per minute.

6 Find the tenths of a second in 28 days, 10 hrs. 40 min. $15\frac{7}{10}$ sec.

7 Find the seconds in 7 centuries of solar years, each 365 days 5 hrs. 48 min. 48 sec.

8 If a person count 90 sovereigns a minute for 12 hours each day, in how many days will he count 10 millions?

9 Find the seconds from the creation, (B.C. 4004) to June 20th, 1846.

10 Find the age of a man whose pulse has beat 2871741600 times, at 65 pulsations in a minute.

NOTE.—In all cases, for convenience, the year is taken at $365\frac{1}{4}$ days, unless when otherwise expressed.

[illegible]

[illegible]

[illegible]

COMPOUND ADDITION.

No. 8.

	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
A 1	4	16	10½ +	13	7	4 +	641	3	8¾ +	72	19	5 +
	146	18	3½ +	72	15	10¾						
2	308	8	7¼ +	64	16	8½ +	241	4	7 +	3	18	10¾ +
	6014	16	2 +	702	3	4½ +	61	10	10			
3	476	8	4¼ +	36	11	2½ +	143	8	7 +	7	17	8½ +
	208	4	3 +	1068	14	2¼ +	741	9	9			
4	271	14	2½ +	63	8	10 +	4106	11	2¾ +	704	7	5¼ +
	60	18	2½ +	403	7	11 +	111	15	8½			
5	846	8	10½ +	37	11	5 +	4108	3	9¾ +	26	14	7¼ +
	500	0	0 +	68	17	4½						
6	5061	14	6¼ +	724	8	10½ +	1043	11	0½ +	705	16	2 +
	60	8	3¼ +	615	5	11 +	41	17	5½			
7	37	10	6 +	1084	6	2½ +	241	11	4¼ +	41	8	8 +
	765	15	2½ +	96	14	9						
8	7481	19	11¼ +	7628	6	10½ +	37	15	0 +	463	8	3½ +
	7	13	2 +	641	4	8¼						
9	1806	10	10½ +	2184	7	11½ +	70	13	8 +	301	8	7¼ +
	64	14	2¼ +	7015	5	9						
10	3418	9	7¼ +	1841	18	10½ +	300	4	3½ +	68	16	11 +
	7001	4	3¾ +	41	18	2½						
B 1	4108	16	10½ +	208	7	3 +	8416	14	8½ +	76	11	10 +
	384	8	4¾ +	70	18	6¼						
2	4102	8	5 +	70	16	3¼ +	308	7	10½ +	5	8	9¼
3	240	18	10¼ +	3	7	6½ +	42	11	5¼ +	6083	8	9¾ +
	720	11	4½ +	41	8	10¾						
4	2416	8	2¼ +	3	16	8 +	704	3	10½ +	26	14	3¼ +
	4103	18	10¾ +	74	11	0 +	610	0	11½			
5	3841	16	8 +	29	7	0½ +	410	8	11½ +	6109	11	8 +
	7	3	4¼ +	18	16	3 +	410	8	10½ +	7003	14	3½
6	8413	18	10½ +	706	4	3 +	34	13	8¾ +	1405	18	11½ +
	563	4	2¼ +	7	17	11 +	83	3	4½ +	4108	18	9
7	3741	16	8½ +	108	14	11¼ +	7	13	8½ +	41	8	0 +
	6	16	6¼ +	73	10	9½						
8	3416	18	9¼ +	701	14	8 +	4	3	11½ +	63	15	2¼ +
	241	3	8¾ +	8	17	5						
9	9684	10	10½ +	710	7	8 +	30	14	5½ +	8	15	10½ +
	104	8	3 +	4916	3	11½						

NOTATION.

No. 7.

A 1 Change 126 from the common or denary scale to the binary.

2 Change 11010 from the binary to the denary.

3 .... 219 from the denary to the ternary.

4 .... 330332 from the quaternary to the denary.

5 .... 120220 from the ternary to the denary.

6 .. . 814 from the denary to the senary.

7 .... 3204 from the quinary to the denary.

8 .... 5555 from the senary to the denary.

9 .... 6566 from the denary to the septenary.

10 .... 23420 from the octenary to the denary.

B 1 .... 1404 from the nonary to the denary.

2 .... 500 from the denary to the nonary.

3 .... 66670 from the denary to the undenary.

4 .... 40t8t from the undenary to the denary.

5 .... 7777 from the denary to the duodenary.

6 .... tetet from the duodenary to the denary.

7 .... 4245 from the septenary to the duodenary.

8 .... t98 from the duodenary to the senary.

9 .... 2121 from the ternary to the quinary.

10 .... 2tt from the undenary to the quinary.

C 1 Add together in the nonary scale, 25540; 3322; 34032; 4786; 5438; and 66677.

2 Add together in the duodenary scale, 67t48; 5e6t4 9et65; 98t8e; and e6e6e.

3 Subtract 1033322 from 2013020 in the quaternary scale.

4 Subtract 98t3t56 from e903243 in the duodenary.

5 Multiply 476te8 by 56 in the duodenary.

6 Multiply 20530434 by 32 in the senary.

7 Multiply 5tet by et in the duodenary.

8 Multiply 802367 by 56 in the nonary.

9 Divide in the duodenary scale 584te64 by 7.

10 Divide in the nonary 217685016 by 23.

NOTE.—In the scales above the denary t is taken to denote ten and e eleven.

COMPOUND ADDITION.

No. 8.

	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
A 1	4	16	10⅓ +	13	7	4 +	641	3	8¾ +	72	19	5 +
	146	18	3½ +	72	15	10¾						
2	308	8	7¼ +	64	16	8⅓ +	241	4	7 +	3	18	10¾ +
	6014	16	2 +	702	3	4⅓ +	61	10	10			
3	476	8	4¼ +	36	11	2⅓ +	143	8	7 +	7	17	8⅓ +
	208	4	3 +	1068	14	2¼ +	741	9	9			
4	271	14	2½ +	63	8	10 +	4106	11	2¾ +	704	7	5¼ +
	60	18	2½ +	403	7	11 +	111	15	8½			
5	846	8	10½ +	37	11	5 +	4108	3	9¾ +	26	14	7¼ +
	500	0	0 +	68	17	4½						
6	5061	14	6½ +	724	8	10¾ +	1043	11	0½ +	705	16	2 +
	60	8	3¼ +	615	5	11 +	41	17	5½			
7	37	10	6 +	1084	6	2½ +	241	11	4¾ +	41	8	8 +
	765	15	2½ +	96	14	9						
8	7481	19	11¼ +	7628	6	10⅓ +	37	15	0 +	463	8	3½ +
	7	13	2 +	641	4	8¼						
9	1806	10	10¼ +	2184	7	11½ +	70	13	8 +	301	8	7¾ +
	64	14	2¼ +	7015	5	9						
10	3418	9	7¼ +	1841	18	10½ +	300	4	3½ +	68	16	11 +
	7001	4	3¾ +	41	18	2½						
B 1	4108	16	10¼ +	208	7	3 +	8416	14	8½ +	76	11	10 +
	384	8	4¾ +	70	18	6¼						
2	4102	8	5 +	70	16	3¼ +	308	7	10½ +	5	8	9¼
3	240	18	10¼ +	3	7	6½ +	42	11	5¼ +	6083	8	9¾ +
	720	11	4½ +	41	8	10¾						
4	2416	8	2¼ +	3	16	8 +	704	3	10½ +	26	14	3¼ +
	4103	18	10¾ +	74	11	0 +	610	0	11½			
5	3841	16	8 +	29	7	0¼ +	410	8	11½ +	6109	11	8 +
	7	3	4¼ +	18	16	3 +	410	8	10½ +	7003	14	3¼
6	8413	18	10½ +	706	4	3 +	34	13	8¾ +	1405	18	11½ +
	563	4	2¼ +	7	17	11 +	83	3	4½ +	4108	18	9
7	3741	16	8½ +	108	14	11½ +	7	13	8½ +	41	8	0 +
	6	16	6¼ +	73	10	9½						
8	3416	18	9¼ +	701	14	8 +	4	3	11½ +	63	15	2¼ +
	241	3	8½ +	8	17	5						
9	9084	10	10¼ +	710	7	8 +	30	14	5½ +	8	15	10¼ +
	104	*8*	*3* +	*4916*	*3*	11½						

	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
10	6148	16	10¼+	71	11	8 +	3	8	10½+	410	19	11¾+
	69	15	0 +5080	9	9½							
C 1	8416	16	10½+	24	3	8¼+	301	11	2 +	75	8	6½+
	11	18	9¾+	409	3	10¼+4109		17	7			
2	6003	18	7¾+	374	7	11½+	29	15	6 +4006		8	10¼+
	39	11	8½+	4	3	5¾+	608	0	0			
3	2406	18	3½+	308	7	7 +	41	16	2¾+3017		4	6½+
	28	11	11¾+5081		8	0 +	606	15	9½			
4	4106	16	10½+	324	7	11 +1008		19	3¾+	641	5	8½+
	2097	14	3 +	809	18	9¾+	56	4	10½			
5	8416	16	10 +	708	8	11½+	37	14	8½+	168	9	10 +
	7416	11	2¼+	38	8	10½+	56	16	9 +	314	11	8¾
6	6841	14	2¼+	387	7	10 +	56	16	3¾+4108		3	7¼+
	27	15	10 +	641	18	7¾+	765	7	10¼+	80	14	7
7	3041	17	6¼+	710	6	10½+	306	15	8 +	75	7	4¼+
	2009	14	10¾+	605	9	9 +	37	11	6½+	480	19	11¾
8	7681	13	9¼+	54	16	10 +	324	7	5¾+	61	19	7¼+
	403	8	7½+5169		18	3¾+	72	11	11 +	418	19	10¼
9	4000	8	6¼+	309	16	8½+1897		3	11¼+	706	14	2¼+
	46	3	8¼+	295	15	1 +	17	4	10¾+	308	19	5½
10	6503	3	2¼+	208	17	10 +4190		3	8¼+	777	15	8 +
	56	16	6 +	190	0	8¼+3764		18	9¾+	508	13	11¼
D 1	7	16	8¼+	134	8	10½+4068		14	2 +	70.	7	7¾+
	306	11	11¼+	93	9	9½+	406	11	10 +	88	15	6¼
2	8034	16	10½+	76	11	0 +	343	3	9¼+	29	17	7½+
	400	8	8¾+	33	15	7 +1466		7	10½+	703	18	8¾
3	8416	16	10¼+	309	9	7½+	207	11	6 +	19	8	8¾+
	704	12	0 +6095		16	10½+	309	9	9¼+4997		17	11½

LONG MEASURE.

	yds.	*ft.*	*in.*	*b.c.*	*yds.*	*ft.*	*in.*	*b.c.*	*yds.*	*ft.*	*in.*	*b.c.*	*yds.*	*ft.*	*in.*	*b.c.*
4	27	1	8	2+	5	0	9	1+	16	2	11	0+	24	1	5	2+
	7	0	6	1+	18	1	7	0+								
5	109	0	4	0+	36	1	7	1+	208	2	9	2+	17	0	11	1+
	365	1	1	0+	30	2	10	2								

	p.	*yds.*	*ft.*	*in.*	*p.*	*yds.*	*ft.*	*in.*	*p.*	*yds.*	*ft.*	*in.*	*p.*	*yds.*	*ft.*	*in.*
6	138	2	1	8+	37	3	0	5+	864	4	2	9+	708	5	1	11+
	30	5	2	9+	176	0	0	1								
7	687	3	1	8+	29	4	0	3+	306	5	2	1+	480	0	1	11+
	17	2	2	8+	608	5	2	10								

	lea.	m.	fur.	p.	lea.	m.	fur.	p.	lea.	m.	fur.	p.	lea.	m.	fur.	p.
8	416	1	2	26+	28	0	5	33+	317	2	6	8+	41	0	7	36+
	864	1	3	24+	716	2	7	31								
9	7	1	7	35+	309	0	4	16+	28	2	5	9+	463	0	0	21+
	706	2	3	18+	470	0	6	13								
10	16	2	5	21+	708	1	6	37+	58	0	1	8+	37	2	7	31+
	480	0	3	27+	768	1	4	9								

	m.	fur.	p.	yds.	m.	fur.	p.	yds.	m.	fur.	p.	yds.	m.	fur.	p.	yds.
E 1	418	3	16	2+	287	0	7	3+	46	7	29	4+	33	2	35	2+
	483	5	11	3+	809	3	8	1								
2	387	2	39	4+	406	7	11	3+	8	4	26	5+	16	2	17	1+
	708	5	31	2+	40	3	26	3								
3	7	5	24	3+	8	4	37	4+	418	7	4	0+	63	2	19	1+
	316	1	26	3+	72	5	28	4								
4	16	3	25	3+	308	1	19	4+	76	2	36	5+	406	7	17	0+
	387	5	28	3+	409	3	32	5								

	fur.	p.	yds.	ft.	fur.	p.	yds.	ft.	fur.	p.	yds.	ft.	fur.	p.	yds.	ft.
5	318	28	3	1+	809	11	4	2+	68	35	0	1+	70	8	2	2+
	764	27	3	0+	908	33	1	2								
6	409	18	2	2+	695	27	1	0+	8	3	3	1+	65	34	4	2+
	897	26	5	1+	904	11	2	0								
7	17	8	1	1+	604	30	4	2+	870	29	3	0+	55	4	2	2+
	760	15	0	1+	875	37	4	0								
8	9	19	5	2+	693	25	1	1+	855	31	3	0+	38	8	4	1+
	705	26	2	0+	868	30	0	2								

	m.	yds.	ft.	in.	m.	yds.	ft.	in.	m.	yds.	ft.	in.
9	416	1043	1	8+	29	806	2	9+	308	50	0	4+
	76	1438	1	7+	48	1509	2	10+	806	760	0	5
10	284	381	0	8+	46	106	2	3+	705	1048	0	6+
	850	1509	1	7+	67	863	1	10+	400	1386	0	11
F 1	709	843	0	1+	683	1568	1	11+	4	837	2	3+
	406	53	0	8+	813	1181	1	10+	20	709	0	1
2	8	1300	0	8+	308	406	1	10+	704	582	2	9+
	41	38	1	11+	685	1446	0	3+	782	1389	1	8

	fur.	yds.	ft.	in.	fur.	yds.	ft.	in.	fur.	yds.	ft.	in.
3	841	146	0	3+	76	210	1	8+	364	75	2	9+
	885	141	0	1+	68	99	1	10+	933	155	2	11
4	909	116	1	8+	763	28	2	7+	4	207	0	5+
	83	89	1	10+	887	164	1	1+	505	183	2	9
5	684	76	1	9+	56	181	0	2+	48	200	2	10+
	971	189	0	3+	760	95	1	11+	38	110	2	9

	fur. yds. ft. in	*fur. yds. ft. in.*	*fur. yds. ft. in.*
6	746 115 0 11+	84 26 2 3+	56 101 1 8+
	402 219 0 6+	870 56 1 3+	64 135 1 10
	lea.m.fur.p.	*lea. m.fur.p.*	*lea.m.fur.p.* *lea.m.fur.p.*
7	6 0 3 17+	824 1 7 36+	98 2 4 30+ 76 0 5 20+
	843 1 6 8+	724 2 1 35	
8	17 0 6 35+	335 1 5 28+	448 2 3 16+ 37 0 7 27+
	604 1 5 31+	862 2 7 24	

CLOTH MEASURE.

	yds.qrs.n.	*yds.qrs.n.*	*yds.qrs.n.*	*yds.qrs.n.*	*yds.qrs.n.yds.qr.n.*
9	734 1 3+	208 3 1+	76 0 2+	8 3 0+	604 1 1+ 783 2 3
10	306 1 2+	28 2 1+	76 3 3+	418 0 2+	503 3 1+ 690 1 2
G 1	716 2 3+	48 1 2+	869 2 3+	706 3 1+	587 2 3+ 40 3 3
	E.e.qrs.n.	*E.e.qrs.n.*	*E.e.qrs.n.*	*E.e.qrs.n.*	*E.e.qrs.n.* *E.e.qrs.n*
2	309 4 3+	417 2 2+	8 3 1+	37 2 3+	846 4 0+ 78 3 3
3	706 3 3+	842 1 2+	78 0 2+	4 3 0+	606 4 2+ 819 2 3
4	483 3 0+	7 4 2+	65 1 1+	846 0 3+	705 2 1+ 87 4 2
5	9 3 1+	8 1 2+	106 0 3+	75 4 1+	64 3 2+ 819 4 0
	Fr.e.qrs.n.	*Fr.e.qrs.n.*	*Fr.e.qrs.n.*	*Fr.e.qrs. n.*	*Fr.e.qrs. n.*
6	806 3 1+	270 5 2+	8 2 0+	64 4 1+	873 5 3+
	652 2 0				
7	410 1 2+	687 3 1+	4 2 3+	18 5 0+	463 3 1+
	581 2 3				
8	75 0 3+	836 4 1+	752 3 2+	9 5 0+	84 4 3+
	876 2 1				
9	9 5 3+	46 1 1+	108 3 2+	714 4 0+	83 5 3+
	604 3 2				
	Fl.ells.	*qrs. n.*	*Fl.ells.*	*qrs. n.*	*Fl.ells.* *qrs. n.* *Fl.ells.* *qrs.n.*
10	46 2 3+	308 1 2+	58 0 1+	762 2 3+	
	815 1 1+	48 0 3			
H 1	9 2 1+	806 0 3+	78 1 2+	458 0 1+	
	682 2 3+	76 1 0			
2	35 0 3+	846 1 1+	752 2 2+	89 1 0+	
	406 0 3+	758 2 2			
3	984 1 1+	7 0 3+	84 2 2+	56 0 1+	
	575 2 3+	707 1 2			

SQUARE MEASURE.

	yds. ft. in.	*yds. ft. in.*	*yds. ft. in.*	*yds. ft. in.*
4	483 4 37+	68 5 111+	7 2 133+	665 1 46+
	76 6 104+	808 8 135		

	yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
5	8	3	126+	406	8	109+	373	0	86+	44	5	52+
	935	7	48+	84	4	19						
6	63	7	105+	842	3	38+	756	2	111+	87	0	64+
	372	5	143+	46	2	85						
7	768	5	28+	35	2	113+	8	7	45+	642	8	131+
	83	3	76+	142	5	124						
8	468	4	132+	86	3	109+	374	2	51+	58	1	68+
	437	0	124+	506	7	19						
9	9	8	118+	803	3	38+	965	4	13+	58	2	142+
	4	3	110+	505	7	55						
10	16	5	36+	446	3	134+	505	0	122+	87	1	93+
	68	7	123+	946	6	65						

	p.	yds.	ft.	p.	yds.	ft.	p.	yds.	ft.	p.	yds.	ft.
I 1	336	20	2+	40	27	4+	8	14	5+	483	26	8+
	24	8	3+	758	20	5						
2	68	24	5+	187	29	3+	92	4	4+	410	15	6+
	387	13	8+	46	9	5						
3	9	28	3+	309	19	8+	467	11	2+	53	4	6+
	168	25	7+	541	18	4						
4	403	3	6+	74	18	2+	186	24	5+	705	13	7+
	26	5	5+	480	27	7						

	a.	yds.	ft.	a.	yds.	ft.	a.	yds.	ft.	a.	yds.	ft.
5	684	1083	2+	76	2814	7+	4	3406	5+	487	705	3+
	608	4186	1+	76	3812	8						
6	74	2084	3+	608	804	2+	63	58	7+	708	4216	5+
	818	4304	6+	72	209	3						
7	486	1808	2+	608	707	3+	56	56	7+	410	1086	5+
	208	4136	3+	74	205	4						

	r.	p.	yds.	r.	p.	yds.	r.	p.	yds.	r.	p.	yds.
8	208	26	16+	74	31	22+	7	8	11+	65	37	24+
	482	15	11+	806	26	25						
9	758	35	21+	68	14	7+	7	25	23+	404	37	28+
	816	13	9+	78	22	22						
10	39	31	20+	508	8	8+	670	27	28+	83	35	25+
	409	12	8+	683	39	26						

	a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.
J 1	728	1	34+	48	0	28+	33	3	17+	605	2	26+
	763	3	33+	84	0	25						
2	46	0	32+	874	3	18+	645	1	20+	72	2	18+
	58	0	14+	413	3	8						

	a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.
3	456	2	28+	387	0	35+	40	3	24+	7	1	18+
	608	2	35+	874	1	24						

CUBIC OR SOLID MEASURE.

	yds	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
4	876	16	1084+	37	24	809+	8	11	1416+
	406	8	305+	76	3	38+	505	15	1515
5	43	25	84+	186	11	1146+	548	23	1084+
	72	10	618+	641	4	48+	707	15	509
6	8	14	1464+	606	3	816+	74	18	1483+
	405	24	806+	752	19	1643+	87	26	1718
7	4176	13	846+	208	8	1087+	64	11	246+
	4183	23	843+	706	17	1436+	43	26	875
8	34	19	1386+	216	21	409+	73	25	1084+
	4108	3	76+	294	26	1341+	3008	17	656
9	4	19	1643+	37	21	76+	418	3	19+
	2164	14	1302+	400	0	814+	73	23	68
10	3807	11	1625+	410	8	383+	54	21	1008+
	4109	0	53+	706	13	803+	37	9	46
K 1	3741	2	809+	6	0	1416+	417	11	309+
	36	8	1030+	7041	13	333+	666	16	1316
2	2874	20	1804+	300	19	617+	25	3	46+
	418	11	1308+	29	6	283+	4103	17	1056
3	1040	8	1038+	7	16	208+	9	13	1711+
	416	8	45+	3024	17	1382+	404	0	16
4	73	4	1084+	416	13	309+	1083	7	1318+
	2165	24	606+	383	25	1445+	25	7	381
5	682	13	1431+	7006	10	284+	3	7	1046+
	209	5	876+	490	23	1308+	77	17	707
6	508	3	187+	6104	14	1084+	263	4	1348+
	59	19	413+	386	3	1245+	9	0	409
7	73	3	63+	108	17	1403+	2046	14	874+
	550	1	1223+	65	13	303+	704	2	103
8	36	9	1834+	705	15	203+	4160	20	9+
	372	13	186+	5809	14	274+	634	24	906
9	2684	13	1704+	241	24	35+	68	3	1042+
	1046	11	337+	764	8	241+	56	14	1394
10	45	16	1713+	346	8	309+	2074	13	1064+
	753	11	814+	62	9	68+	1758	23	1074
J 1	34	5	34+	106	10	108+	4073	18	1256+

	yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
	418	25	841+	763	3	209+	5108	14	1652
2	59	2	463+	387	18	870+	4105	22	800+
	374	8	1074+	2050	10	380+	741	5	243
3	6841	26	1704+	58	18	263+	604	7	148+
	3073	13	1064+	284	15	306+	17	7	109

AVOIRDUPOIS WEIGHT.

	lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.	drs.
4	816	3	13+	7	2	6+	4108	11	8+	371	8	9+
	6412	14	13+	706	3	10						
5	741	10	9+	6842	8	3+	347	11	8+	1006	5	15+
	774	14	13+	6218	9	7						
6	2418	3	13+	641	11	9+	74	5	14+	1438	13	12+
	206	4	7+	384	15	9						

	cwt.	qrs.	lbs.	oz.	cwt.	qrs.	lbs.	oz.	cwt.	qrs.	lbs.	oz.
7	7	1	16	8+	34	0	22	11+	183	2	19	15+
	4063	1	8	7+	58	1	24	13+	187	2	19	12
8	41	0	16	11+	173	3	8	9+	4062	3	17	10+
	38	0	9	7+	186	2	11	4+	5030	3	7	6
9	68	3	17	10+	143	0	26	3+	2074	1	3	9+
	765	2	19	8+	74	3	8	7+	5609	1	21	3
10	4872	0	19	8+	746	2	0	3+	58	3	13	0+
	6041	0	24	15+	889	1	13	9+	67	2	22	12
M1	4168	3	16	11+	287	1	3	8+	46	0	24	7+
	385	2	19	10+	7068	1	27	14+	417	0	13	9
2	687	0	16	10+	2841	3	20	13+	776	1	25	15+
	87	0	3	8+	406	2	19	12+	6084	1	6	7
3	8	3	10	12+	27	0	9	6+	108	1	18	3+
	8074	2	21	6+	387	3	17	13+	706	0	24	9
4	76	0	11	10+	209	3	18	14+	5065	1	3	15+
	6806	3	25	3+	724	1	16	3+	84	0	9	14

	tons.	cwt.	qrs.	lbs.	tons.	cwt.	qrs.	lbs.	tons.	cwt.	qrs.	lbs.
5	74	13	0	16+	146	4	3	21+	4026	12	1	19+
	387	8	2	25+	68	14	1	3+	762	9	0	18
6	34	16	0	19+	608	3	0	22+	76	11	3	4+
	584	17	1	26+	9	3	0	19+	406	12	3	21
7	1804	3	1	14+	208	11	3	6+	11	7	0	15+
	406	18	2	22+	60	0	0	13+	5418	11	1	25
8	746	19	0	16+	2084	3	1	17+	68	14	3	9+
	172	13	1	14+	7614	9	2	5+	406	15	0	15

	st.	lbs.	oz.	drs.	st.	lbs.	oz.	drs.	st.	lbs.	oz.	drs.
9	76	11	11	8+	309	8	4	9+	68	4	13	11+
	75	5	9	6+	643	13	15	13+	87	5	0	9
10	1804	3	8	9+	762	11	13	14+	68	9	14	10+
	7046	13	5	5+	24	7	7	7+	910	12	15	12
N 1	768	13	2	3+	41	9	9	10+	869	11	15	7+
	46	3	8	11+	962	10	0	4+	7	13	15	9
2	46	3	7	5+	762	11	11	14+	83	13	5	9+
	555	7	7	7+	6	10	8	10+	843	3	9	5

	tons.	cwt.	qrs.	lbs.	tons.	cwt.	qrs.	lbs.	tons.	cwt.	qrs.	lbs.
3	687	13	0	19+	7046	8	1	23+	8705	19	2	16+
	8	3	0	9+	7	15	1	12+	284	8	3	23
4	3384	3	3	20+	78	14	0	22+	5	8	1	17+
	614	13	2	21+	78	4	0	4+	4286	19	3	15
5	6842	11	0	13+	72	8	1	26+	5	0	0	19+
	8713	14	3	7+	682	9	2	13+	78	15	0	24
6	486	9	3	19+	37	16	0	21+	6302	7	1	9+
	58	13	3	10+	763	14	0	13+	92	8	2	12

	st.	lbs.	oz.	drs.	st.	lbs.	oz.	drs.	st.	lbs.	oz.	drs.
7	68	11	10	9+	372	8	5	4+	416	13	15	13+
	78	2	9	7+	203	12	14	14+	68	7	0	12
8	108	13	15	10+	26	8	7	6+	487	10	13	9+
	28	3	6	7+	867	12	14	13+	84	9	0	15

TROY WEIGHT.

	oz.	dwt.	grs.	oz.	dwt.	grs.	oz.	dwt.	grs.	oz.	dwt.	grs.
9	6874	14	11+	384	9	19+	46	17	23+	7638	18	11+
	968	5	20+	6807	15	15						
10	387	13	9+	72	8	11+	6041	18	22+	468	7	15+
	38	13	21+	703	15	13						
O 1	6874	6	16+	382	14	17+	49	17	21+	9	9	9+
	8413	15	13+	764	14	23						
2	724	8	9+	3846	14	11+	38	19	21+	202	8	3+
	76	5	5+	1084	13	17						
3	506	4	1+	26	13	8+	3174	9	19+	816	18	2+
	76	16	13+	584	5	14						
4	687	14	13+	8164	3	8+	29	19	18+	713	17	14+
	6842	5	3+	387	13	19						

	lbs.	oz.	dwt.	grs.	lbs.	oz.	dwt.	grs.	lbs.	oz.	dwt.	grs.
5	87	4	13	16+	168	10	17	9+	384	7	8	11+
	9	9	16	22+	438	11	4	17+	16	3	17	10

	lbs.	oz.	dwt.	grs.	lbs.	oz.	dwt.	grs.	lbs.	oz.	dwt.	grs.
6	189	3	7	13+	8	10	16	21+	724	5	18	10+
	63	4	17	9+	808	11	10	7+	76	0	5	8
7	806	5	13	9+	78	3	9	21+	600	8	17	15+
	55	10	6	10+	804	5	14	8+	33	0	0	19
8	974	8	18	17+	68	10	14	23+	241	5	3	8+
	76	2	16	13+	834	7	15	12+	99	11	19	23

WOOL WEIGHT.

	lasts	sks.	weys	lasts	sks.	weys	lasts	sks.	weys	lasts	sks.	weys.
9	37	8	1+	46	3	0+	38	10	1+	287	3	0+
	568	11	1+	72	5	0						
10	384	7	0+	410	3	1+	7	10	1+	603	9	1+
	876	11	0+	8	3	0						
	weys	tods	st.	weys	tods	st.	weys	tods	st.	weys	tods	st.
P 1	416	3	1+	76	5	0+	8	4	0+	809	3	1+
	762	2	1									
2	318	5	0+	746	2	1+	86	3	1+	9	0	1+
	843	4	0									
	tods	st.	lbs.	tods	st.	lbs.	tods	st.	lbs.	tods	st.	lbs.
3	806	0	13+	37	1	10+	8	0	8+	765	1	13+
	28	1	9+	48	0	10						
4	768	1	11+	384	0	10+	9	0	9+	68	0	0+
	416	1	7+	909	1	13						

APOTHECARIES WEIGHT.

	oz.	drs.	sc.	grs.	oz.	drs.	sc.	grs.	oz.	drs.	sc.	grs.
5	846	3	1	16+	76	7	2	9+	406	3	0	17+
	90	5	1	8+	46	6	2	11+	968	0	0	19
6	943	5	2	14+	6	1	1	11+	84	5	0	8+
	416	7	2	13+	93	6	0	16+	587	4	1	9
7	109	3	0	7+	68	5	2	16+	46	3	1	11+
	508	0	0	9+	718	7	1	14+	64	2	0	18
	lbs.	oz.	drs.	sc.	lbs.	oz.	drs.	sc.	lbs.	oz.	drs.	sc.
8	608	3	3	0+	86	8	4	2+	7	10	5	1+
	406	3	7	0+	928	5	6	1+	84	9	3	1
9	76	5	4	0+	403	7	5	1+	628	9	3	1+
	46	10	6	2+	505	11	7	1+	581	3	4	0
10	9	8	7	2+	16	11	0	1+	874	5	4	0+
	46	5	5	2+	68	10	3	1+	764	6	1	0

	gals.	*pts.*	*oz.*	*drs.*	*gals.*	*pts.*	*oz.*	*drs.*	*gals.*	*pts.*	*oz.*	*drs.*
Q 1	76	3	14	7+	841	2	8	3+	672	5	11	4+
	38	3	9	6+	41	6	13	5				
2	468	7	8	3+	76	2	11	5+	84	3	0	2+
	809	0	13	6+	76	5	7	1				
	pts.	*oz.*	*drs.*	*m.*	*pts.*	*oz.*	*drs.*	*m.*	*pts.*	*oz.*	*drs.*	*m.*
3	684	11	3	34+	26	8	0	19+	14	13	7	26+
	807	7	1	11+	92	8	5	56				
4	703	10	2	46+	86	3	5	29+	807	0	0	52+
	764	12	7	9+	83	3	4	50				

WINE MEASURE.

	pipes	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*
5	874	1	36+	4106	0	42+	706	1	8+	837	1	13+
	6419	0	57+	280	1	48						
6	3764	0	37+	284	1	48+	9	1	53+	6841	0	26+
	72	1	9+	746	1	58						
7	46	0	13+	308	1	37+	1682	0	48+	7034	0	56+
	26	1	9+	38	1	13						
8	764	0	52+	8406	1	38+	384	1	43+	37	0	19+
	684	1	31+	7401	0	45						
	hhds.	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*
9	410	18	3+	768	37	1+	1842	29	0+	684	53	1+
	76	48	2+	909	38	1						
10	75	41	2+	680	38	3+	2741	19	0+	746	58	2+
	84	37	3+	916	16	0						
R 1	4089	37	2+	706	41	0+	48	8	3+	684	26	2+
	7613	39	1+	807	52	0						
2	6084	11	0+	389	23	3+	74	50	0+	5106	48	2+
	863	28	3+	75	59	0						
	tierces	*gals.*	*qts.*	*tierces*	*gals.*	*qts.*	*tierces*	*gals.*	*qts.*	*tierces*	*gals.*	*qts.*
3	806	31	2+	74	28	3+	586	19	1+	37	40	0+
	9	33	2+	687	25	0						
4	4108	19	1+	764	35	3+	86	24	0+	6008	33	2+
	74	29	1+	586	41	3						

ALE AND BEER MEASURE.

	pipes	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*
5	8417	0	46+	3804	1	23+	876	1	36+	94	1	45+
	410	0	19+	68	1	13						

	pipes	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*	*pipes*	*hhds.*	*gals.*
6	2806	0	38+	741	1	26+	9	0	48+	308	1	50+
	7064	0	51+	687	1	48						
7	7064	0	32+	841	1	46+	56	1	38+	7	0	41+
	943	1	28+	68	1	43						
8	608	0	11+	893	1	38+	76	0	46+	1809	0	35+
	8074	1	18+	246	1	34						
9	76	0	26+	418	1	34+	3809	0	41+	768	1	50+
	24	0	38+	641	1	45						

	hhds.	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*	*hhds.*	*gals.*	*qts.*
10	684	36	3+	76	28	1+	48	10	2+	873	9	0+
	416	52	2+	84	40	1						
S 1	841	38	1+	26	41	0+	87	26	2+	583	51	1+
	9	16	0+	38	28	1						
2	706	35	0+	84	21	0+	641	13	2+	73	29	1+
	410	38	0+	784	45	2						
3	4168	13	3+	718	9	0+	403	10	2+	6101	41	1+
	732	38	3+	41	52	0						
4	418	41	3+	7061	50	0+	807	18	1+	8081	26	2+
	706	37	1+	48	28	3						

DRY MEASURE.

	lsts.	*wys.*	*qrs.*	*bush.*	*lsts.*	*wys.*	*qrs.*	*bush.*	*lsts.*	*wys.*	*qrs.*	*bush.*
5	76	1	4	3+	184	0	3	7+	46	1	4	6+
	872	1	1	3+	48	1	2	5				
6	806	0	3	7+	74	1	4	3+	605	1	3	4+
	416	0	2	5+	74	1	3	6				
7	418	0	4	7+	86	1	3	2+	387	0	2	6+
	410	1	4	3+	68	0	0	5				
8	2841	0	0	3+	687	1	2	6+	46	0	0	7+
	505	1	4	3+	76	1	2	4				

	weys	*qrs.*	*bush.*	*pks.*	*weys*	*qrs.*	*bush.*	*pks.*	*weys*	*qrs.*	*bush.*	*pks.*
9	684	0	3	3+	76	3	3	2+	8	4	7	1+
	46	0	2	0+	308	1	6	2+	78	3	5	0
10	416	1	3	0+	28	3	5	3+	64	0	7	2+
	941	2	2	1+	67	1	4	2+	8	0	5	1
T 1	741	0	3	2+	846	2	4	3+	74	1	0	0+
	58	4	7	3+	381	2	5	1+	96	3	4	0
2	8	3	2	1+	76	4	6	3+	508	0	2	0+
	68	3	1	1+	746	4	7	2+	58	0	3	1

	qrs.	bush.	pks.	gals.	qrs.	bush.	pks.	gals.	qrs.	bush.	pks.	gals.
3	408	3	2	1+	68	4	3	0+	87	0	1	1+
	406	3	0	1+	76	7	3	0+	9	3	1	1
4	486	5	3	0+	768	0	2	1+	84	6	0	1+
	305	3	1	1+	607	5	2	0+	40	1	1	1
5	68	3	2	0+	706	5	3	1+	48	0	2	1+
	919	6	3	0+	88	1	1	1+	419	7	2	1
6	410	4	1	1+	687	3	0	0+	96	1	2	1+
	5	0	0	1+	418	6	3	0+	74	5	0	1

	bush.	pks.	gals.	qts.	bush.	pks.	gals.	qts.	bush.	pks.	gals.	qts.
7	816	3	1	3+	74	0	0	2+	83	1	1	1+
	906	0	1	3+	64	2	0	0				
8	76	1	1	3+	403	0	1	2+	684	3	0	1+
	78	0	0	1+	943	3	1	3				
9	608	3	1	2+	876	1	0	1+	48	2	1	3+
	503	3	0	2+	76	1	1	3				

COAL MEASURE.

	ch.	bush.	pks.	ch.	bush.	pks.	ch.	bush.	pks.	ch.	bush.	pks.
10	7061	26	3+	824	16	2+	38	24	1+	6041	33	0+
	6041	33	0+	728	30	2						
U 1	7061	26	2+	807	13	3+	9090	29	1+	405	34	0+
	568	24	2+	78	9	0						
2	6041	28	3+	746	9	2+	5804	13	0+	381	25	3+
	63	18	1+	241	11	1						

PAPER.

	r.	q.	s.	r.	q.	s.	r.	q.	s.	r.	q.	s.
3	680	16	11+	328	7	9+	40	19	23+	602	8	13+
	74	14	18+	382	10	10						
4	7416	13	18+	308	9	16+	276	10	9+	54	6	19+
	4100	17	22+	384	10	11						

TIME.

	yrs.	m.	wks.	da.	yrs.	m.	wks.	da.	yrs.	m.	wks.	da.
5	841	3	3	6+	74	11	0	2+	56	8	2	5+
	941	5	1	0+	38	10	2	4+	764	4	0	3
6	9	10	2	5+	16	4	0	3+	406	11	3	1+
	74	12	2	6+	83	9	0	4+	7	3	1	5
7	41	6	2	3+	816	3	0	4+	608	1	1	1+
	74	5	3	6+	410	12	2	0+	56	3	1	4
8	876	3	0	4+	94	1	3	5+	200	10	1	3+
	707	7	0	6+	48	0	1	4+	308	12	2	1

	mths.	*wks.*	*da.*	*hrs.*	*mths.*	*wks.*	*da.*	*hrs.*	*mths.*	*wks.*	*da.*	*hrs.*
9	46	0	3	16+	718	2	5	21+	3	3	6	11+
	46	0	1	19+	303	2	4	9				
10	768	0	3	13+	816	1	5	21+	41	3	1	16+
	208	1	5	23+	41	0	3	6				
V 1	281	0	4	19+	76	1	3	20+	808	2	5	15+
	46	3	0	8+	717	0	2	11				
2	418	0	4	19+	387	3	5	21+	28	1	6	13+
	413	2	3	8+	46	1	4	15				

	wks.	*da.*	*hrs.*	*m.*	*wks.*	*da.*	*hrs.*	*m.*	*wks.*	*da.*	*hrs.*	*m.*
3	909	6	13	26+	38	2	14	43+	74	3	8	20+
	6	0	11	58+	384	1	19	50+	63	5	8	9
4	706	3	11	16+	2	0	16	41+	68	1	9	18+
	43	6	23	48+	410	2	15	8+	74	0	20	30
5	418	5	14	3+	72	2	9	6+	841	0	13	34+
	768	1	19	41+	41	3	6	9+	208	5	14	43
6	768	3	20	50+	24	2	16	18+	8	0	7	24+
	413	3	18	7+	506	0	19	16+	28	1	21	58

	da.	*hrs.*	*m.*	*sec.*	*da.*	*hrs.*	*m.*	*sec.*	*da.*	*hrs.*	*m.*	*sec.*
7	768	19	34	41+	64	14	26	19+	8	20	48	51+
	413	8	9	52+	76	11	35	8+	109	14	20	33
8	281	15	37	45+	608	19	9	36+	24	7	31	54+
	284	14	26	43+	76	8	57	9+	408	12	13	18

QUESTIONS IN COMPOUND ADDITION.

A 1 A person paid £307 16s. 8½d., he has to pay £120 17s. 7¾d.; how much was owed?

2 A collector received £137 15s. 6½d., 856 shillings, 5084 pence, and 4109 farthings; how much did he receive in all?

3 What sum will pay, for loaf sugar 13s. 8¾d., moist sugar 7s. 5½d., currants 8s. 10½d., tea 7s. 8½d., coffee 4s. 6d., butter 5s. 6d., cheese 13s. 1½d., and bread 17s. 8¾d.?

4 The less of two sums is £105. 10s. 6½d., and their difference £75. 10s. 9¾d.; what is the amount of both?

5 Paid to my banker the following bills: £763 10s. 6d., £500., £405 10s. 7½d., £303 19s. 8¾d., and £575 10s.; how much in the whole?

6 A person left to his wife, £2000, to his three children £500 each, to three nephews £150 each, to three nieces

£100 each, to a charity £575 10s. 6d., and to his executors 50 guineas; what did he leave in all?

7 A person expends on a journey £26 17s. 8½d., and brings home £17. 17s. 3½d.; what sum did he take with him?

8 Bought goods for £75. 10s. 6d.; paid, packing 15s. 7½d., porterage 7s. 10½d., carriage £2 16s. 10d., and expenses £3 3s. 6d.; how much did the goods cost me in all?

9 If the rent of my house be £35 per annum, window tax, £1. 7s. 6d., poor rates £8 5s. 10d., borough rate £1 15s., and lamp and scavenger's £2. 10s. 6d.; how much does it cost me yearly?

10 A mechanic earned on Monday, 7s. 6½d., on Tuesday, 6s. 8¾d., on Wednesday, 5s. 7¾d., on Thursday, 8s. 6d., on Friday, 2s. 3d., and on Saturday 1s. 8d.; what did he earn in the week?

B 1 From London to Watford is 17m. 6fur. 20p., from Watford to Tring, 13m. 7fur. 20p., from Tring to Wolverton, 20m. 7fur. 15p., from Wolverton to Coventry, 41m. 3fur. 10p., and from Coventry to Birmingham 18m. 3fur. 15p.; how far is Birmingham from London?

2 A surveyor had to keep in repair 4 roads; the first, 3m. 3fur. 10p., the second, 4m. 4fur. 20p., the third, 7m. 2fur. 16p. 4yds., and the fourth, 9m. 3fur. 26p. 3½yds; what length of road had he in charge?

3 Sold from a piece of cloth at different times, 10yds. 1qr., 15yds. 2qrs. 2n., 14yds. 3qrs. 3n., and 7yds. 3qrs. 1n.; how many yards were in the piece?

4 A farm consisted of 4 fields, one of 25a. 3r. 10p., another 17a. 2r. 25p., the third, 15a. 1r. 26p., and the fourth, 12a. 2r. 19p.; how many acres did the farm contain?

5 A farmer planted 13a. 2r. 18p. with wheat, 12a. 3r. 25p. with barley, 10a. 1r. 36p. with oats, and 15a. 3r. with peas; how many acres did he plant in all?

6 In three pieces of land, one of 33 sq. yards. 7ft. 100in., another 40 sq. yards, 6ft. 57in., and the other, 57 sq. yards, 8ft. 60in.; how many square yards.

7 Required the number of cubic feet in 4 logs of wood, containing respectively 56 cu. ft. 416in., 39 cu. ft. 768in., 57 cu. ft. 114in., and 45 cu. ft. 1086 in.

8 The great bell at Oxford weighs 7 tons 11 cwt. 2 qrs. 8lbs.,

and that of St. Paul's 5 tons, 2 cwt. 0 qr. 18lbs.; required the weight of both together.

9 Bought 5 chests of tea, one of 1 cwt. 2 qrs. 23 lbs., another 1 cwt. 3 qrs. 11 lbs. 6 oz., another 3 qrs. 18lbs. 12 oz., another 2 cwt. 1 qr. 13 lbs., and the fifth, 3 cwt. 0 qr. 10 lbs. 8 oz.; what was the whole weight?

10 A butcher sold 3 cwt. 0 qr. 16lbs. 8 oz. of beef, 1 qr. 23 lbs. 10 oz. of mutton, 2 cwt. 0 qr. 12lbs. of veal, and 26 lbs. 12 oz. of lamb; what was the whole weight sold?

C 1 Required the weight of three bags of rice, weighing respectively, 1 cwt. 3 qrs. 16 lbs. 10 oz., 2 cwt. 0 qr. 26 lbs., and 3 cwt. 3 qrs. 25 lbs. 8 oz.

2 A silvermith bought 2 lbs. 10 oz. 11 dwts. 16 grs. of gold, 13 lbs. 11 oz. 8 dwts. 20 grs. of silver of one person, and of another he bought 3 lbs. 8 oz. 8 dwts. 18 grs. of gold, and 9 lbs. 8 oz. 15 dwts. 12 grs. of silver; what weight did he buy in all?

3 A person bought a quantity of plate, of which was a cream jug weighing 5 oz. 16 dwts. 10 grs., a tea pot, 1 lb. 10 oz. 0 dwt. 14 grs., a dozen silver forks, 1 lb. 8 oz. 16 dwts., and a coffee pot, 1 lb. 11 oz 16 dwts. 10 grs.; required the weight of the whole?

4 A Wool stapler sold 10 sheets of wool, weighing together 18 packs, 13 st. 8 lbs., 9 sheets weighing 16 packs, 14 st. 12 lbs., 7 sheets weighing 13 packs 11 st., and 3 sheets weighing 5 packs, 9 st. 10 lbs.; what was the weight of the whole, allowing 16 lbs. to a stone, and 15 stones to a pack?

5 A wine merchant has 3 pipes 36 gals. 6 pts. of port, 1 hhd. 28 gals. of claret, 2 hhds. of Madeira, 1 pipe 20 gals. of Lisbon and 3 pipes 1 hhd. 40 gals. of sherry; how much has he in stock?

6 An apothecary made up a prescription of five ingredients; the first weighed 17 lbs. 3 oz. 4 drs. 1 sc. 13 grs., the second, 14 lbs. 8 oz. 5 drs. 0 sc. 18 grs., the third, 9 lbs. 3 oz. 5 drs., the fourth, 8 lbs. 0 oz. 7 drs. 0 sc. 18 grs., and the fifth, 11 lbs. 11 oz. 5 drs. 2 sc. 12 grs.; required the whole weight of medicines.

7 A person filled four casks, holding respectively 26 gals. 2 qts., 2 bar. 30 gals. 3 qts., 1 bar. 15 gals., and 3 bar. 25 gals. 2 qts.; how much had he?

8 A corn merchant brought 216 qrs. 3 bus. 3 pecks of wheat, 208 qrs. 5 bus. 2 pks. of barley; 518 qrs. 1 bus. 2 pks. of oats; 119 qrs. 7 bus. 1 pk. of peas, and 68 qrs. 4 bus. 3 pks. of beans; how much did he buy in all?

9 A man built successively six houses: the first in 4 months 3 weeks 4 days; the second in 3 mths. 1 wk. 5 days; the third in 3 mths. 4 days; the fourth in 2 mths. 3 wks. 3 days; the fifth in 2 mths. 2 wks. 5 days; and the sixth in 2 mths. 4 days; in how many months did he build the whole?

10 A person was 3 days 3 hours 30 minutes in walking from London to Biggleswade, thence to Stilton, 1 day, 7 hrs. 15 min., to Newark, 3 days, 18 hrs. 45 m., to Doncaster, 2 days, 15 hrs. 20 min., and to York, 2 days, 20 hrs. 50 min.; in what time did he perform the whole distance?

COMPOUND SUBTRACTION.

No. 9.

	£.	s.	d.	£.	s.	d
A 1	8416	16	10¼	—5812	13	7½
2	3842	4	2	—1687	5	1½
3	4068	14	8½	—3187	16	2½
4	7401	10	3	—6154	14	8½
5	1203	8	0	— 496	16	7½
6	5816	2	5½	—5019	17	10¾
7	6200	10	3	—4683	14	7¼
8	1000	0	0	— 765	0	8½
9	4832	7	6	—4810	19	10½
10	8417	3	0	—3294	14	10¼
B 1	5681	13	3	—4628	16	10¼
2	5000	3	2	—4008	14	8¾
3	7682	5	5½	—6849	18	11¾
4	2300	7	6	—1300	18	7½

	£.	s.	d.	£.	s.	d.
5	8463	12	4½	—7284	11	6¾
6	9043	7	2½	—6834	16	4¾
7	8751	16	5	—4187	19	11¾
8	5085	9	6¾	—4168	17	10½
9	5841	11	8½	—4169	15	10½
10	4003	8	2½	—2816	18	4¾
C 1	7070	1	3½	—7041	16	8¼
2	9634	11	2	—8417	8	11½
3	3874	14	0	—2769	11	4¼
4	1018	13	8½	—1008	19	7¾
5	5684	0	8¼	—4176	13	6½
6	3841	3	2¼	—3816	19	2¼
7	740	8	10 —	68	11	4¾

LONG MEASURE.

	yds.	ft.	in.	b.c.	yds.	ft.	in.	b.c.
8	76	1	8	2—	34	2	9	1
9	83	0	2	0—	76	1	7	2
10	91	1	3	1—	86	2	6	2
D 1	41	0	5	1—	16	0	8	2
2	64	1	4	0—	46	2	11	1
3	41	0	1	2—	30	2	9	1

	m.	f.	p.	yds.	m.	f.	p.	yds.
4	16	3	22	4—	6	5	16	3
5	62	4	16	3—	49	6	29	4
6	30	1	19	2—	19	5	37	4
7	64	6	28	3—	58	7	19	5
8	72	1	21	1—	21	3	35	3
9	40	0	13	3—	33	5	27	4

	lea.	m.	f.	p.	lea.	m.	f.	p.
10	81	0	3	19—68	1	7	16	
E 1	30	2	4	18—17	1	7	26	
2	51	2	5	28— 4	2	6	19	
3	42	1	5	21—16	0	7	34	
4	76	0	3	11—10	1	5	34	
5	76	1	4	33—46	2	5	37	

	fur.	p.	yds.	ft.	fur.	p.	yds.	ft.
6	84	16	3	1—68	24	4	1	
7	84	37	0	0—46	33	3	2	
8	16	18	1	1— 8	28	4	2	
9	41	26	1	0—13	35	2	1	
10	58	10	4	1—48	37	3	2	
F 1	68	14	0	0—41	33	3	1	
2	71	13	4	1—41	29	4	2	

CLOTH MEASURE.

	yds.	qrs.	n.	in.	yds.	qrs.	n.	in.
3	76	3	1	1—41	3	2	1¼	
4	38	0	1	0—16	2	3	1	

	yds.	qr.	n.	yds.	qr.	n.
5	4107	1	2 —	3816	2	3
6	6874	0	1 —	3846	3	2

	Fr. ell.	qr.	n.	Fr. ell.	qr.	n.
7	4863	2	2 —	1486	3	3
8	4103	2	0 —	4017	5	3
9	2684	0	1 —	1687	4	2

	E. ells.	qr.	n.	E. ells.	qr.	n.
10	3762	1	2 —	1687	4	3
G 1	3681	0	2 —	1486	2	2
2	4168	1	0 —	768	3	1
3	5006	4	2 —	509	4	3

	Fl. ell.	qr.	n.	Fl. e.	qr.	n.
4	2846	0	2 —	1863	1	2
5	4006	2	1 —	4003	2	3
6	1003	1	0 —	48	2	1
7	1008	0	1 —	1003	2	3

SQUARE MEASURE.

	yds.	ft.	in.	yds.	ft.	in.
8	4168	3	104—3417	5	86	
9	2076	4	83—2041	5	116	
10	3076	4	63—3041	6	140	
H 1	2683	3	10—1768	5	46	
2	3007	6	111—3004	8	126	

	po.	yds.	ft.	po.	yds.	ft.
3	6201	3	4 —	709	23	6
4	1007	24	6 —	1003	14	7
5	1683	12	0 —	109	13	7

	a.	yds.	ft.	a.	yds.	ft.
6	4106	213	3—2164	709	5	
7	863	1043	2— 907	2096	7	

	a.	yds.	ft.	a.	yds.	ft.
8	841	2064	5—	840	3078	3

	r.	p.	yds.	r.	p.	yds.
9	876	26	17—	846	24	28
10	874	19	16—768	29	25	
I 1	680	17	13—287	24	21¼	

	a.	r.	p.	a.	r.	p.
2	7416	2	13—7103	3	28	
3	2068	0	16—1784	2	35	
4	1084	1	27— 106	1	38	
5	4168	0	31—2876	1	24	
6	1807	0	21— 400	3	38	
7	3706	1	24—2814	3	31	

CUBIC OR SOLID MEASURE.

	yds.	ft.	in.	yds.	ft.	in.
8	741	13	1006—643	21	1416	
9	807	11	604—709	20	807	
10	8826	14	43—3716	13	809	
J 1	6412	17	506—4186	19	874	
2	3062	8	106—3052	11	708	

	yds.	ft.	in.	yds.	ft.	in.
3	563	18	184—168	26	1096	
4	2084	10	309—1068	7	608	
5	706	20	1416— 300	24	806	
6	901	3	1004—846	13	1600	
7	974	20	418—163	14	1016	

	yds.	ft.	in.	yds.	ft.	in.
8	3084	12	48	2846	19	308
9	1064	0	200	1046	14	916
10	700	10	316	380	24	189
K 1	2804	7	41	1896	11	648
2	241	23	1046	183	26	1384
3	746	14	109	1468	10	709
4	7040	10	73	6080	9	684

	yds.	ft.	in.	yds.	ft.	in.
5	1264	1	410	1238	20	968
4	7040	10	73	6080	9	684
5	1264	1	410	1238	20	968
6	7046	13	1076	168	24	947
7	4137	0	26	4126	13	817
8	506	21	1008	414	23	1239

AVOIRDUPOIS WEIGHT.

	t.	cwt.	qr.	lb.	t.	cwt.	qr.	lb.
9	381	11	3	16	196	13	2	21
10	206	3	1	21	107	11	0	27
L 1	787	11	1	16	604	19	2	9
2	406	8	0	19	37	13	2	26
3	1407	9	3	11	403	16	2	17
4	800	11	1	12	700	13	3	25

	cwt.	qr.	lb.	oz.	cwt.	qr.	lb.	oz.
5	4004	1	16	11	819	1	8	13
6	416	0	11	8	168	0	21	13
7	3841	3	13	7	460	3	19	11
8	7201	0	8	3	7109	0	13	11
9	903	3	22	14	846	3	26	10
10	5050	0	4	3	1468	3	17	9

	st.	lb.	oz.	dr.	st.	lb.	oz.	dr.
M 1	1846	3	11	3	1468	9	13	8

	st.	lb.	oz.	dr.	st.	lb.	oz.	dr.
2	909	10	9	13	804	13	4	14
3	6070	7	1	10	589	11	8	14
4	1794	4	8	3	706	12	3	7
5	2001	8	1	15	168	13	15	8
6	3701	9	0	6	608	11	7	9

	qrs.	lb.	oz.	dr.	qr.	lb.	oz.	dr.
7	309	17	11	8	304	11	13	13
8	4016	8	3	7	2081	15	11	11
9	709	24	11	14	609	26	15	9

	t.	cwt.	qr.	lb.	t.	cwt.	qr.	lb.
10	3874	11	1	16	2418	13	0	21
N 1	163	14	0	11	109	17		318

	cwt.	qr.	lb.	oz.	cwt.	qr.	lb.	oz.
2	1641	0	16	10	416	0	23	14
3	808	0	11	10	416	1	19	14

TROY WEIGHT.

	lbs.	oz.	dwt.	lbs.	oz.	dwt.
4	1684	10	17	1346	8	19
5	7964	0	11	7603	8	16
6	6814	7	19	4108	11	16
7	7061	3	14	6046	3	19
8	7641	9	13	6416	10	18

	oz.	dwt.	gr.	oz.	dwt.	gr.
9	6801	11	19	3807	14	13
10	2841	8	3	1768	16	21
O 1	2708	14	3	1609	6	19
2	1410	13	11	1384	17	21
3	1410	7	11	1326	11	20
4	3684	9	19	1693	10	11

WOOL WEIGHT.

	lasts	s.	w.	lasts	s.	w.
5	4187	3	0	2086	5	1
6	1087	9	1	816	10	1
7	3800	5	0	2106	7	1

	weys.	tods.	st.	weys.	tods.	st.
8	1413	3	1	1387	6	1
9	4162	1	0	3841	4	1
10	7083	4	1	4109	5	0

APOTHECARIES WEIGHT.

	oz.	dr.	sc.	gr.	oz.	dr	sc.	gr.
P 1	1843	4	1	17—	1416	5	0	19
2	1006	0	0	9—	48	4	1	13
3	7604	5	2	11—	6108	6	2	18

	lb.	oz.	dr.	sc.	lb.	oz.	dr.	sc.
4	4186	4	3	1—	2817	9	4	2
5	6841	3	0	0—	4187	7	5	1

	lb.	oz.	dr.	sc.	lb.	oz.	dr.	sc.
6	6804	5	3	1—	4187	8	6	2

FOR FLUIDS.

	gal.	pt.	oz.	dr.	gal.	pt.	oz.	dr.
7	1746	3	10	4—	1418	5	13	3
8	2416	4	5	0—	2189	5	10	2
9	3006	1	7	3—	3001	3	11	5

WINE MEASURE.

	tierces	gals.	qts.	tierces	gals.	qts.
10	4106	13	1—	4103	29	3
Q 1	4386	19	2—	1876	36	2
2	3871	36	3—	3418	40	3

	hhds.	gals.	qts.	hhds.	gals.	qts.
3	4869	28	0—	3874	41	2
4	1008	31	1—	309	52	1
5	6807	43	0—	6148	58	2

	pipes	hhds.	gals.	pipes	hhds.	gals.
6	1874	0	37—	1843	1	56
7	1409	1	11—	1403	0	48
8	2184	1	16—	2016	1	39

	gals.	qts.	pts.	gals.	qts.	pts.
9	4138	1	1—	1687	2	1
10	3084	1	0—	1687	3	1
R 1	2084	0	0—	1689	1	1

ALE AND BEER MEASURE.

	hhds.	gals.	qts.	hhds.	gals.	qts.
2	4873	14	0—	4186	28	2
3	3070	41	0—	2869	50	3
4	1003	11	1—	103	28	3

	pipes	hds.	gals.	pipes	hds.	gal.
5	8416	0	28—	7286	0	34
6	1740	0	11—	1416	1	38

	pipes	hhds.	gals.	pipes	hhds.	gals.
7	2084	1	25—	1096	1	38

	gals.	qts.	pts.	gals.	qts.	pts.
8	1083	1	0—	1072	2	1
9	4106	0	1—	3842	1	0
10	7416	0	0—	3841	0	1

DRY MEASURE.

	lasts	w.	qr.	bu.	lasts	w.	q.	b.
S 1	1063	0	2	4—	1046	1	4	7
2	1061	1	3	4—	1038	4	3	6
3	3710	0	1	3—	3008	0	2	5

	weys	qr.	bu.	pk.	weys	q.	b.	p.
4	4362	1	3	1—	4168	3	4	3
5	2084	0	5	2—	1641	3	6	2
6	7006	2	0	1—	6109	4	7	3

	qrs.	bu.	pk.	g.	qrs.	b.	p.	g.
7	1083	4	1	1—	1046	5	2	1
8	3006	4	0	0—	3003	7	2	1

	qrs.	bu.	pk.	g.	qrs.	b.	p.	g.
9	1064	3	1	0—	78	5	3	1

	bus.	pk.	g.	qt.	bus.	p.	g.	q.
10	7411	3	0	1—	6148	3	1	3
T 1	1876	2	1	2—	1418	3	0	3
2	4631	0	0	1—	1684	3	1	2

	pks.	g.	qt.	pt.	pks.	g.	q.	pt.
3	7007	0	3	0—	6418	1	3	1
4	2016	1	0	0—	1413	1	3	1
5	1006	0	0	1—	909	1	2	1

COAL MEASURE.

	ch.	*bush.*	*pks.*	*ch.*	*bush.*	*pks.*
6	6107	14	3	4168	21	3
7	1706	13	0	843	26	2
8	4013	25	1	3068	31	3

PAPER.

	reams	*q.*	*s.*	*reams*	*q.*	*s.*
9	4103	13	11	2168	16	13
10	3013	8	16	3001	11	21
U 1	2016	10	8	1018	17	19
2	302	8	13	184	15	16
3	412	0	5	376	7	8
4	1000	0	13	100	8	16

TIME.

	yrs.	*m.*	*w.*	*d.*	*yrs.*	*m.*	*w.*	*d.*
5	1876	10	3	2	1418	12	3	4
6	1962	4	0	3	1084	4	2	5
7	3706	0	1	5	3104	3	2	6

	mths.	*w.*	*d.*	*h.*	*mths.*	*w.*	*d.*	*h.*
8	4103	0	3	13	3068	1	3	19
9	2106	1	5	11	1018	2	5	21
10	7505	3	1	10	7106	3	5	18

	wks.	*d.*	*h.*	*m.*	*wks.*	*d.*	*h.*	*m.*
V 1	103	3	13	21	101	5	22	37
2	684	0	17	50	346	5	17	56
3	814	2	7	26	416	2	13	42

	da.	*h.*	*m.*	*sec.*	*da.*	*h.*	*m.*	*sec.*
4	64	15	35	26	48	20	41	53
5	70	10	21	32	68	18	37	41
6	68	13	51	39	18	23	56	22

	yrs.	*m.*	*w.*	*d.*	*yrs*	*m.*	*w.*	*d.*
7	4106	3	1	5	3016	10	2	6
8	2807	0	0	3	1816	5	1	4
9	7070	9	3	2	6186	11	3	5
10	1241	5	2	5	484	9	3	5

QUESTIONS IN COMPOUND SUBTRACTION.

A 1 Borrowed £109 16s. 10½d. and paid back £89 18s. 7¾d.; how much is still owing?

2 Lent 137 guineas, received £99 19s. 11¾d; how much is due?

3 If I pay £3 7s. 8½d., what change ought I to receive out of a note for £5.?

4 If I buy goods to the amount of £500, and pay in two months, £150 10s. 6d., in three months, £80 15s. 7d. and in four months, £208 11s. 10½d.; how much do I still owe?

5 If a person's income be £525 10s., and he pays for housekeeping £187 15s. 6d., wages £23 11s. 10d., rent and taxes £78 12s. 6d.; how much will he have left?

6 Find the difference between 40 guineas and £39 10s. 6d.

7 A person sends a cheque for £10 to pay a bill, and receives

£3 11s. 2½d. in change; required the amount of his bill.

8 To £1 17s. 8½d. add 273 pence, from which take £2 1s. 6¾d.

9 If my board cost £55 10s. 6d. yearly, tailor's bill £18 17s. 6d., shoemaker's £3 17s. 8d., travelling expenses £11 12s. 8d., and other incidental expenses £15; how much shall I save out of £150. per annum?

10 Take £3 17s. 2½d. from £5, and to the remainder, add 408 pence.

B 1 Required the difference in length between two roads, one 28m. 3fur. 16p. 3yds., and the other 37m. 1fur. 8p. 2yds.

2 A man went 73m. 5fur. 36p. in two days; he travelled 39m. 6fur. 36p. 4yds. the first day; how far had he to go on the second day?

3 A draper sold 37yds. 3qrs. 1n. out of 51yds. 3qrs.; how much is left?

4 A piece of holland measured 107 Eng. ells 3 qrs.; sold at different times 27yds. 1qr. 3n., and 58yds. 2qrs.; how much remained?

5 If the superficial measurement of a piece of oak be 73ft. 8in. 10pts., and 58ft. 9in. 11pts. be cut off; how much remains?

6 Divided 105a. 3r. 17p. among 3 persons; A had 47a. 2r. 26per., B. 36a. 1r. 8per.; how much had C?

7 From a stone containing 52 cubic feet 1000in., a piece was cut off containing 38 cubic feet, 1039 in.; how much was left?

8 Bought two chests of tea, weighing together 3cwt. 1qr. 16lbs.; one weighed 1cwt. 3qrs. 27lbs.; what was the weight of the other?

9 A person bought 11cwt. 1qr. 18lbs. of sugar, and sold, first 3cwt. 1qr. 16lbs., then 7cwt. 2qr. 11lbs.; how much has he left?

10 A silversmith made out of 56lbs. 8oz. 8dwts, 10grs. of silver, tea spoons weighing in all 16lbs. 9oz. 12dwts., and table spoons weighing in all 27lbs. 10oz. 10dwts. 18grs.; how much was left?

C 1 Add together 7 lasts, 5 sacks, 1 wey, and 13 lasts, 8 sacks *of wool; from* the sum take 16 lasts 5 sacks.

2 A druggist made up 25lbs. 10oz. 3drs. of drugs; he first sold 8lbs. 3oz. 7drs., then 12lbs. 8oz. 5drs.; how much had he left?

3 A wine merchant sold 23gals. 3qts. 1pt. of wine from 39 gallons; how much had he left?

4 Two porter vats contained together 46 butts 30gals., one contained 23 butts 1hhd. 42gals.; how much did the other contain?

5 From a barrel of ale take 17 gals. 3qts. 1pt.; how much is left?

6 Bought 508qrs. 3bush. 2pks. of grain, of which 309qrs. 5bush. 3pks. is wheat, and the remainder oats; required the quantity of oats.

7 A farmer sowed 23qrs. 3bush. of wheat, and 19 qrs. 6 bush. 3pks. of oats; how much more wheat did he sow than oats?

8 A man was 30yrs. 8mths. 3wks. 6 days old, when his son was born; he is now 44yrs. 3mths. 1wk. 5 days; how old is the son?

9 A was born, Sep. 23rd, 1840, at 2 o'clock, p.m. and B at 3 a.m., on March the 9th, 1845; by how much does A's age exceed B's, allowing 30 days to the month, and 12 months to the year?

10 An apprentice was bound for 5 years, he has served 3yrs. 7mths. 3 wks. 4 days; how long has he yet to serve, allowing 13mths. to the year.

COMPOUND MULTIPLICATION.

No. 10.

	£.	s.	d.			£.	s.	d.	
A 1	4176	16	8½	×2	B 1	809	3	3¾	×12
2	3084	17	11¾	×3	2	68	13	10	×13
3	6038	8	7½	×4	3	76	14	2½	×17
4	746	15	3¾	×5	4	106	7	7¾	×18
5	17	13	8½	×6	5	4103	16	10¾	×27
6	9	8	7¾	×7	6	75	13	8½	×36
7	13	15	10½	×8	7	309	19	7¼	×42
8	26	7	4¼	×9	8	13	5	5	×54
9	384	16	6	×10	9	76	17	11½	×63
	7413	14	7½	×11	10	187	13	3¾	×77

	£.	s.	d.		£.	s.	d.
C 1	9	16	8¼×84	6	207	5	7¾×58
2		19	11¾×96	7	30	17	11½×65
3	437	8	11 ×100	8	385	0	0¾×79
4	6	16	8½×110	9	84	13	8⅛×85
5	4168	16	8½×19	10	1093	4	10¾×97
6	8063	10	6¼×11	G 1	685	16	6 ×107
7	807	11	10½×29	2	46	8	5½×113
8	4103	8	6¼×33	3	374	11	11¾×119
9	76	14	7¾×55	4	88	17	9¼×126
10	8016	7	8½×57	5	11	8	4½×137
D 1	9969	18	10¼×12	6	26	19	3¾×141
2	4803	9	7½×68	7	20	17	10¾×59
3	924	14	8¾×73	8	406	9	11¼×207
4	86	10	4¼×78	9	3761	16	2½×153
5	38	3	0½×81	10	4006	8	10½×167
6	704	15	7¾×111	H 1	763	13	7¾×175
7	876	9	10½×120	2	83	19	4 ×183
8	741	10	9¼×146	3	16	8	10½×192
9	1089	13	6¾×264	4	73	13	7¾×208
10	741	8	8½×310	5	164	19	8¼×337
E 1	1980	10	10 ×132	6	89	10	7 ×468
2	674	4	6½×121	7	569	3	2½×584
3	187	15	8¾×144	8	87	15	9¾×672
4	46	17	8¼×389	9	418	17	4¼×746
5		16	7½×120	10	921	6	6¾×859
6	9	14	3¾×564	I 1	1087	14	11 ×967
7	760	16	8½×84	2	2016	18	4½×1803
8	3041	8	10¾×96	3	3708	9	10¾×2796
9	37	13	7¼×108	4	69	13	4 ×3000
10	9	19	3 ×120	5	183	18	6½×4683
F 1	16	7	5½×132	6	16	7	5¾×5809
2	403	11	6 ×144	7	38	11	7½×6435
3	371	5	6¾×23	8	9	19	8¾×7080
4	68	13	3½×34	9	14	9	5 ×3049
5	1086	19	8 ×46				

LONG MEASURE.

	yds.	ft.	in.	b.c.		yds.	ft.	in.	b.c.
10	37	2	7	1×7	2	9	1	5	2×19
J 1	46	0	8	0×11	3	38	2	6	1×28

	p.	yds.	ft.	in.	
4	63	3	2	6	6×37
5	19	4	0	7	7×341
6	11	2	1	9	9×58

	lea.	m.	fur.	p.	
7	76	1	1	19	19×467
8	42	2	5	23	23×75
9	9	0	7	36	36×83
10	13	1	6	31	31×92

	m.	fur.	p.	yds.	
K 1	68	5	18	3	3×213
2	107	3	28	2	2×9
3	43	0	33	4	4×727

	m.	fur.	p.	yds.	
4	59	6	25	5	5×53

	m.	yds.	ft.	in.	
5	60	187	2	10	10×69
6	468	843	0	5	5×85
7	96	43	2	8	8×97

	fur.	yds.	ft.	in.	
8	75	135	0	10	10×113
9	684	36	1	7	7×219
10	92	175	2	6	6×354

	lea.	m.	fur.	p.	yds.	
L 1	76	0	5	35	3	3×418
2	19	2	6	28	4	4×526
3	33	1	7	37	2	2×683

CLOTH MEASURE.

	yds.	qrs.	n.	
4	7681	2	3	3×759
5	408	3	1	1×846
6	463	2	2	2×907

	E ells.	qrs.	n.	
7	7246	3	3	3×73
8	3085	2	1	1×1038
9	2764	4	2	2×516

	Fr. ells.	qrs.	n.	
10	463	3	3	3×19
M 1	7641	2	1	1×69

	Fr. ells.	qrs.	n.	
2	76	5	2	2×758

	Fl. ells.	qrs.	n.	
3	2874	1	2	2×9
4	705	2	1	1×57
5	39	0	3	3×681

	yds.	qrs.	n.	
6	4073	2	2	2×1847
7	389	1	3	3×684
8	7041	3	1	1×46

SQUARE MEASURE.

	yds.	ft.	in.	
9	4163	0	111	92
10	2706	6	86	137
N 1	874	7	108	209
2	68	3	91	371

	p.	yds.	ft.	
3	3876	19	5	11
4	746	26	3	87
5	65	23	7	182
6	6004	7	1	256

	a.	yds.	ft.	
7	327	2013	5	375
8	7418	946	7	59

	a.	yds.	ft.	
9	603	3007	6	728
10	4128	609	5	843

	r.	p.	yds.	
O 1	7216	26	20	19
2	4108	27	13	613
3	726	11	9	1983
4	1036	38	25	2035

	a.	r.	p.	
5	2673	1	23	705
6	849	2	19	1804
7	76	3	37	3045
8	4186	1	26	316

CUBIC OR SOLID MEASURE.

	yds.	ft.	in.	
9	6764	25	1069×13	
10	723	11	842×26	
P 1	4107	19	1341×39	
2	765	23	196×144	
3	2083	9	746×268	
4	79	26	1509×307	
5	106	10	841×463	
6	762	20	1505×509	
7	8164	19	768×54	
8	406	25	936×604	

	yds.	ft.	in.	
9	73	14	38×702	
10	568	21	1302×888	
Q 1	607	21	1463×943	
2	1607	9	846×72	
3	738	14	68×106	
4	207	17	409×584	
5	4073	25	864×96	
6	374	10	1082×18	
7	76	13	764×208	
8	406	7	38×54	

AVOIRDUPOIS WEIGHT.

	tons.	cwt.	qrs.	lbs.	
9	763	13	2	17×12	
10	76	9	3	22×342	
R 1	1403	14	0	19×76	
2	583	15	2	21×89	
3	641	8	0	25×88	
4	58	16	1	13×409	
5	33	17	3	14×564	
	cwt.	qrs.	lbs.	oz.	
6	364	2	13	14×176	
7	49	1	19	10×761	
8	3604	0	25	11×55	
9	603	3	21	9×99	
10	76	1	11	15×338	
S 1	743	2	25	15×183	
2	634	0	19	8×267	

	cwt.	qrs.	lbs.	oz.	
3	87	1	21	11×1807	
4	4106	3	24	9×77	
	st.	lbs.	oz.	drs.	
5	76	7	5	10×705	
6	604	11	13	13×27	
7	7065	12	7	6×8	
8	46	9	5	15×66	
9	9	10	15	7×861	
	cwt.	qrs.	lbs.	oz.	drs.
10	746	1	11	7	5×92
T 1	58	0	16	11	10×56
2	11	3	17	14	7×564
3	416	1	8	5	9×17
4	706	3	23	9	15×36

TROY WEIGHT.

	lbs.	oz.	dwt.	grs.	
5	476	8	13	16×11	
6	68	9	16	21×48	
7	7	3	9	7×406	
8	46	7	0	19×83	
9	906	5	11	8×16	
10	43	10	17	23×201	

	lbs.	oz.	dwt.	grs.	
U 1	93	11	19	23×44	
2	106	8	12	10×19	
3	84	3	8	7×175	
4	463	7	15	15×342	
5	95	6	16	18×606	

WOOL WEIGHT.

	lasts	sacks	weys.		
6	2160	7	1	×	24
7	746	5	0	×	75
8	84	4	1	×	116

	sacks	tods	st.	lbs.	
9	37	3	1	8	× 209
10	642	10	1	3	× 138
V 1	546	4	1	11	× 39

APOTHECARIES WEIGHT.

	oz.	drs.	sc.	grs.	
2	764	7	2	16	× 63
3	87	4	0	9	× 186

	lbs.	oz.	drs.	sc.	
4	346	5	5	1	× 76
5	568	10	6	2	× 54
6	46	9	5	1	× 382

	lbs.	oz.	drs.	sc.	
7	384	11	7	2	× 416

FOR FLUIDS.

	gals.	pts.	oz.	drs.	
8	308	3	10	6	× 212
9	46	5	9	3	× 864

	pts.	oz.	drs.	min.	
10	764	10	4	28	× 73

WINE MEASURE.

	pipes	hhds.	gals.	qts.	
W 1	4103	0	42	3	× 9
2	746	1	15	1	× 39
3	84	1	58	2	× 85
4	9	0	61	3	× 768

	hhds.	gals.	qts.	pts.	
5	769	19	3	1	× 58

	hhds.	gals.	qts.	pts.	
6	84	43	0	1	× 364
7	11	52	2	0	× 586

	tierces	gals.	qts.	pts.	
8	4162	36	1	1	× 87
9	904	18	3	1	× 183
10	76	35	2	1	× 584

ALE AND BEER MEASURE.

	bar.	gals.	qts.	pts.	
X 1	768	17	1	1	× 98
2	94	27	2	1	× 109
3	106	31	3	1	× 237
4	43	13	1	1	× 764

	hds.	gals.	qts	pts.	
5	416	26	3	1	× 82

	hds.	gals.	qts.	pts.	
6	74	51	2	1	× 99
7	8	37	1	1	× 646

	pipes	hhds.	gals.	qts.	
8	387	1	28	2	× 74
9	46	0	36	3	× 185
10	106	1	46	3	× 279

DRY MEASURE.

	lasts	wey	qrs.	bush.	
Y 1	76	1	3	7	× 21
2	604	0	4	6	× 39
3	9	1	2	5	× 764
4	43	1	3	4	× 94

	weys	qrs.	bush.	pks.	
5	58	3	4	2	× 186
6	7	2	6	3	× 564
7	41	4	7	1	× 103

	qrs.	bush.	pks.	gals.	
8	187	1	4	3	× 249
9	45	6	3	1	× 382
10	416	2	1	1	× 75
Z 1	509	4	2	1	× 66
2	84	5	1	1	× 349

	bush.	pks.	gal.	qts.	
3	46	3	1	2	× 18
4	19	2	0	1	× 76
5	182	1	1	3	× 158

COAL MEASURE.

	ch.	*bush.*	*pks.*	
6	1684	25	3	×26
7	741	33	2	×48

	ch.	*bush.*	*pks.*	
8	96	29	1	×136
9	417	17	3	×218

PAPER.

	reams	*q.*	*s.*	
10	7416	11	16	×29
A 2 1	841	16	18	×103

	reams	*q.*	*s.*	
2	4063	4	6	×99
3	54	8	9	×248

TIME.

	yrs.	*m.*	*wks.*	*da.*	
4	403	10	2	4	×33
5	74	9	3	5	×141
6	196	11	1	6	×274
7	52	8	0	3	×362

	mths.	*wks.*	*da.*	*hrs.*	
8	742	3	5	6	×44
9	68	1	6	11	×153
10	624	0	2	21	×19
B 2 1	86	1	4	19	×246

	wks.	*da.*	*hrs.*	*min.*	
2	372	4	11	20	×58
3	86	5	16	38	×369
4	74	0	19	51	×261
5	106	3	22	54	×93

	da.	*hrs.*	*min.*	*sec.*	
6	387	17	46	38	×56
7	96	19	52	58	×85
8	41	3	13	26	×149
9	108	21	56	35	×740
10	35	16	10	41	×890

QUESTIONS IN COMPOUND MULTIPLICATION.

A 1 If a yard of cloth cost 13s. 7¾d., what will 28 yards cost?

2 Find the value of 371bs. of tea at 4s. 8d. per lb.

3 What will 46 stones of flour cost at 2s. 8½d. per stone?

4 What cost 48 gallons of brandy at £1. 4s. 6d. per gallon?

5 Paid 13s. 6d. for a hat, how much would 57 cost?

6 At 7¼d. per lb., required the value of 69lbs. of sugar.

7 What will 73lbs. of beef cost at 6¾d. per lb.?

8 What cost 85cwt. of cheese at £3 11s. 10d. per cwt.?

9 Required the value of 88 sheep at £1 7s. 6d. each.

10 What is the worth of 96yds. of silk at 17s. 11½d. per yard?

B 1 How much must be given for 98 pieces of silver at £3 13s. 10d. per piece?

2 What is the value of 110lbs. of coffee at 1s. 10d. per lb.?

3 How much per year is £1 17s. 9d. per week?

4 What cost 4lbs. of tea at 7¾d. per ounce?

5 *If a pair of* shoes cost 7s. 3½d., what cost 135 pairs?

6 Paid 18s. 6d. per man per week to 27 men for 7 weeks; how much was paid in all?

7 How many pounds in 187 purses, each containing a guinea, a pound, a crown, and a groat?

8 What cost 213 gals. of wine at £1 18s. 8d. per gallon?

9 What is the dividend on £287 at 11s. 6d. in the pound?

10 What cost 296 bushels of potatoes at 3s. 7½d. per bushel?

C 1 A person spends £1 3s. 6¾d. daily, and lays by yearly £150; what is his income?

2 What cost 476 suits of clothes at £4 18s. 6d. per suit?

3 How much will pay 559 men 16s. 9¾d. each?

4 A farmer sold 620 sheep at £1 11s. 8½d. each, and bought 53 oxen at £12 16s 6d. each; what money did he carry home?

5 What is the expense of travelling 735 miles at 2¾d. per mile, allowing £3 18s. 6d. for lodging and food?

6 What cost 846 chests of oranges at £1 13s. 10½ per chest?

7 Find the worth of 975 pieces of linen at £3. 15s. 6d. per piece.

8 What is the value of 1009 knives at 3s. 9d. each?

9 Bought 11cwt. 3qrs. 10lbs. of raisins at 6¾d. per lb., what did I pay?

10 Bought 33 ingots of silver, each 3lbs. 7oz. at £2 11s. 3d. per oz., what did they cost?

D 1 What length of road will 4 men make in 27 days, at 5p. 3yds. 1ft. 10in. per day?

2 How far shall I go in 57 days at 23m. 3fur. 26p. 2yds. per day?

3 If a railway carriage move 1m. 2fur. 30p. per minute, how far will it go in 3 hours?

4 What quantity of cloth will make coats for 750 soldiers at 1yd. 3 nails to one coat?

5 What quantity of linen will make 12doz. pairs of sheets, if each sheet takes 8yds. 1qr. 2n.?

6 Multiply 33 sq. yards 8ft. 68in. by 29.

7 How many acres are in 19 farms each 42a. 3r. 30p. 20yds.?

8 A block of stone contains 63 cu. ft. 478 in. how many cubic feet are in 75 such blocks?

9 Multiply 37 cu. yds. 18ft. 826in. by 53.

10 How many herrings in a shoal 2 miles long, 1½ miles broad, and 245 yards deep, allowing 68 to the solid yd.?

E 1 What is the weight of 23 pieces of iron, each of 1ton 13cwt. 2qrs. 26lbs?

2 A bag of cotton weighed 33cwt. 3qrs 21 lbs; what is the weight of 26 bags?

3 A chest of tea weighed 1cwt. 1qr. 18lbs.; how much is there in 30 chests?

4 What is the weight of 59 hhds. of sugar, each 5cwt. 3qrs. 24lbs?

5 If a sovereign weighs 5dwts. 3grs. what will 750 weigh?

6 Find the weight of 79 ingots of silver, each 18lbs. 8oz. 16dwts. 20grs.

7 If a dozen tea-spoons weigh 1loz. 10dwts. 15grs., how much will 57 dozen weigh?

8 Find the weight of 68 sheets of wool, each 1pack. 13st. 12lbs., at 16lbs. to a stone, and 15 stones to a pack?

9 If a box of medicine weigh 3drs. 1sc. 15grs., what will 3 dozen weigh?

10 Find the number of pounds in 13841 grains apoth., and multiply the result by 26.

F 1 What weight divided by 29 will produce 3lbs. 7oz. 3drs. 1sc. 12grs.?

2 If a cask of wine hold 1hhd. 38gal. 5pts., what will 58 casks hold?

3 Find the number of hhds. in 84163 pints of wine, and multiply that number by 47.

4 If 1gal. 3qts. 1pt. of wine be drank in a day by 9 persons; how much will they consume in a week?

5 If 2gals. 3qts. 1pt. of ale be drank in a day, how many barrels in the year?

6 How many tuns of ale can be brewed in 29 brewings, at 2tuns 1hhd. 16gals. each time?

7 How much grain can be ground in a year, at 22qrs. 6bu. 2 pks. daily?

8 Required the produce of 13 fields, each producing 21 loads 4qrs. 6bush. 3pks.

9 How much corn will grow on 113 acres, at 4qrs. 7bush. 3pks. per acre?

10 If a man thrash 4bush. 3pks. in a day, how much in 46 days?

G 1 In 57 parcels, how much paper, each parcel containing 13 reams 15 quires 20 sheets?

2 Suppose I walk a mile in 16min. 35sec.; how many days of 12hrs. each should I be in walking 113 miles?

3 In how long could 26 houses be built, supposing each on an average to take 5mths. 29 days, allowing 30 days to the month, and 12 months to the year?

4 How long would a vessel be in sailing 550 miles, at the rate of 10 miles in 1hr. 45min. 35sec.?

5 If a man cut down a field of corn in 3 days 7hrs. 55min., how long will it take him to cut 17 such fields, working 12hrs. a-day?

6 In travelling by railway, I was 3 days 17hrs. 40min.; how long should I have been by coach which travelled at a rate of one-seventh the speed?

7 If I travel a certain distance in 1yr. 11mths. 28 days 10 hrs.; how long should I require to travel 19 times as far?

8 If 3 miles of a railway are completed in 3 weeks 5½ days; how long will it take to complete 219 miles?

9 What length of time divided by 67 will give 1yr. 1mth. 3wks. 5 days 6hrs. 40min. 20sec.?

10 A boy is at school 7 years; there are two vacations in a year, each 5wks. 6 days 22hrs. how long are his holidays altogether?

COMPOUND DIVISION.

No. 11.

	£.	s.	d.		£.	s.	d.
A 1	7529	13	9 ÷2	9	742	18	6½÷10
2	1232	14	8¼÷3	10	461	18	10½÷11
3	764	8	3½÷4	B 1	95	14	6 ÷12
4	909	11	6¼÷5	2	7396	8	1½÷18
5	1008	19	7¾÷6	3	416	11	4¾÷21
6	6	19	10¼÷7	4	392	11	4½÷27
7	28	13	8 ÷8	5	2469	9	0 ÷36
8	163	5	2 ÷9	6	7105	18	3½÷42

	£.	s.	d.		£.	s.	d.
7	4063	9	10¼÷54	7	909641	4	4 ÷94
8	2069	11	4 ÷56	8	1000068	11	10¾÷113
9	701	8	7¾÷63	9	7416804	10	6 ÷134
10	920	14	8¼÷66	10	206418	6	10½÷156
C 1	49	15	11½÷144	G 1	710468	13	2¼÷168
2	307	16	2 ÷72	2	4208006	9	10½÷175
3	460	12	6½÷70	3	4106837	14	2¼÷186
4	916	8	10¾÷77	4	3402008	11	11 ÷194
5	1008	11	9¼÷84	5	40080609	5	5½÷241
6	39	7	6½÷88	6	76034	18	10¼÷258
7	241	19	8¾÷90	7	3604	4	7½÷264
8	67	8	10½÷96	8	103706	14	0¼÷174
9	4109	11	4¾÷99	9	70014	15	9½÷241
10	7000	5	5 ÷108	10	10084	8	5 ÷315
D 1	6046	14	6½÷110	H 1	10683	14	2½÷251
2	7084	11	6¾÷120	2	8008	15	8½÷347
3	8046	8	10½÷132	3	61004	3	10 ÷416
4	9074	16	6 ÷144	4	74	11	6½÷279
5	4106	8	10¾÷5	5	160184	10	4¾÷365
6	768	11	3½÷28	6	41068	8	2 ÷374
7	84	9	6¼÷33	7	24106	10	6½÷463
8	108	10	4 ÷7	8	7201	9	8 ÷587
9	683	9	10 ÷9	9	384	19	11¾÷669
10	406	7	4½÷8	10	20446	8	4½÷704
E 1	96	10	6¾÷11	I 1	41083	11	10¼÷840
2	100	0	4½÷12	2	70707	4	6 ÷946
3	413	11	8¼÷24	3	408	19	10½÷1806
4	90	0	10½÷39	4	110467	16	2¼÷2080
5	341	10	5¼÷7	5	40163	8	6½÷3746
6	1640	19	8 ÷35	6	11004628	9	7¾÷4119
7	706	5	4½÷26	7	6706416	18	10½÷5894
8	10683	16	10½÷13	8	4068	14	7¾÷6004
9	2046	8	7¾÷19	9	30725	0	8¼÷7046
10	41008	11	5½÷26	10	48632	15	5 ÷8810
F 1	6734	3	8½÷39	J 1	70643	18	7¼÷9416
2	410068	4	10¾÷46	2	706	3	10 ÷7419
3	200873	1	1 ÷53	3	410683	14	6½÷9999
4	990068	12	8½÷67	4	1016418	13	2 ÷809
5	24108	9	9 ÷75	5	240041	8	5¼÷4196
6	*67416*	*18*	3½÷85	6	741080	10	8½÷6090

LONG MEASURE.

	yds.	ft.	in.	b.c.
7	4107	2	8	1÷6
8	3764	0	9	2÷38
9	1075	1	7	0÷1742
10	6083	2	3	1÷268

	p.	yds.	ft.	in.
K 1	4107	3	0	8÷47
2	6813	4	2	7÷11
3	6081	5	1	2÷109
4	7624	3	2	11÷264

	lea.	m.	fur.	p.
5	8410	1	7	38÷58
6	6418	0	5	28÷12
7	2870	1	4	17÷189
8	4106	2	3	22÷263

	m.	fur.	p.	yds.
9	8076	3	18	3÷564
10	3741	2	34	2÷68
L 1	6419	1	27	4÷182
2	4173	0	30	2½÷7613

	m.	yds.	ft.	in.
3	1086	304	1	9÷5068
4	7164	1038	2	7÷55
5	3041	842	0	5÷132
6	7463	50	1	10÷169
7	6032	186	0	4÷683

	fur.	yds.	ft.	in.
8	4163	163	0	6÷63
9	708	45	1	7÷9
10	2016	185	2	9÷343
M 1	106	93	1	11÷846

CLOTH MEASURE.

	yds.	qrs.	n.
M 2	8746	1	3÷11
3	6412	2	1÷48
4	705	0	2÷183
5	1046	3	3÷568

	E. ells.	qrs.	n.
6	6410	3	2÷87
7	403	4	1÷247
8	7016	2	0÷483
9	649	0	3÷569

	Fr. ells.	qrs.	n.
10	1607	2	3÷36
N 1	843	0	2÷158
2	76	1	2÷12
3	438	5	1÷265

	Fl. ells.	qrs.	n.
4	4106	1	2÷44
5	8061	0	3÷8
6	756	2	1÷184

SQUARE MEASURE.

	yds.	ft.	in.
N 7	3074	5	84÷13
8	687	3	110÷186
9	1044	7	126÷238
10	706	4	95÷45

	a.	yds.	ft.	in.
O 1	4172	1068	4	36÷18
2	2064	2036	1	106÷249
3	873	804	7	136÷348
4	1462	3712	4	84÷467
5	642	416	0	100÷372
6	763	1010	6	92÷646

	r.	p.	yds.	ft.
7	2468	8	26	3÷33
8	7041	26	18	7÷248
9	416	32	13	3÷768
10	1010	20	9	1÷359
P 1	372	15	6	8÷561

	a.	r.	p.	yds.
2	2840	1	18	25÷37
3	6068	0	31	22½÷189
4	741	0	23	16¼÷246
5	109	3	28	24÷362
6	4163	2	16	15÷876

CUBIC OR SOLID MEASURE.

	yds.	*ft.*	*in.*
7	4106	22	1416÷83
8	7216	19	804÷108
9	4106	20	1120÷88
10	704	15	746÷103
Q 1	208	25	1418÷482
2	1083	11	264÷569
2	410	8	316÷846
4	720	16	843÷702
5	6704	11	1286÷99
6	418	18	808÷176

	yds.	*ft.*	*in.*
7	302	21	375÷462
8	5410	24	1642÷589
9	6705	9	668÷604
10	1108	17	112÷762
R 1	683	20	968÷841
2	1072	10	705÷108
3	6043	15	1015÷271
4	7640	23	264÷658
5	792	5	746÷741
6	3416	8	1414÷879

AVOIRDUPOIS WEIGHT.

	tons.	*cwt.*	*qrs.*	*lbs.*
R 7	1087	10	1	15÷44
8	7041	18	0	24÷148
9	643	7	2	11÷176
10	568	13	3	21÷204
S 1	143	9	1	26÷347
2	1064	15	0	18÷409
3	276	17	3	20÷503
4	4108	8	0	16÷635

	cwt.	*qrs.*	*lbs.*	*oz.*
5	1743	2	11	10÷144
6	2084	1	21	13÷11

	cwt.	*qrs.*	*lbs.*	*oz.*
7	607	3	4	9÷468
8	7623	0	19	11÷509
9	3303	1	26	8÷674
10	4432	2	13	13÷72
T 1	731	0	8	5÷168
2	3418	3	25	14÷897

	st.	*lbs.*	*oz.*	*drs.*
3	8013	7	11	11÷765
4	384	13	10	13÷96
5	1807	9	4	8÷265
6	743	11	12	9÷682

TROY WEIGHT.

	lbs.	*oz.*	*dwts.*	*gr.*
T 7	1708	3	8	15÷68
8	4032	0	14	20÷12
9	762	9	15	14÷386
10	5608	10	18	22÷408
U 1	4013	7	9	4÷561

	lbs.	*oz.*	*dwts.*	*grs.*
2	714	11	17	21÷99
3	7641	3	15	18÷110
4	618	2	17	11÷341
5	4060	11	5	22÷764
6	7035	8	13	15÷807

WOOL WEIGHT.

	lasts.	*sacks.*	*weys.*	
U 7	4138	7	1÷65	
8	348	10	0÷184	
9	7432	9	1÷308	

	sacks.	*tods.*	*st.*	*lbs.*
10	4176	8	1	10÷54
V 1	704	5	0	12÷584
2	3607	12	1	9÷348

APOTHECARIES WEIGHT.

	lbs.	oz.	drs.	sc.	
3	7604	10	4	2	÷7
4	418	8	1	1	÷184
5	6021	5	7	2	÷641
	oz.	drs.	sc.	grs.	
6	7416	4	1	16	÷342
7	841	7	2	8	÷6
8	4173	5	0	5	÷483

FOR FLUIDS.

	gals.	pts.	oz.	drs.	
9	276	7	13	3	÷56
10	1807	4	9	2	÷219
	pts.	oz.	drs.	min.	
W1	806	10	4	38	÷7
2	1841	12	7	54	÷463

WINE MEASURE.

	pipes.	hhds.	gals.	qts.	
W3	3874	1	46	2	÷72
4	418	0	58	1	÷187
5	4307	1	52	3	÷764
	hhds.	gals.	qts.	pt.	
6	741	24	0	1	÷9
7	8416	53	2	1	÷863

	hhds.	gals.	qts.	pt.	
8	1008	9	1	0	÷96
	tierces.	gals.	qts.	pt.	
9	706	36	1	1	÷58
10	2074	39	0	1	÷346
X1	416	9	3	1	÷568
2	1064	21	2	1	÷77

ALE AND BEER MEASURE.

	bar.	gals.	qts.	pt.	
X3	764	28	2	1	÷36
4	1342	19	3	1	÷173
5	715	8	0	1	÷387
	hhds.	gals.	qts.	pt.	
6	711	46	2	1	÷11
7	1804	48	2	1	÷149

	hhds.	gals.	qts.	pt.	
8	416	49	3	1	÷108
9	3174	9	1	1	÷376
	pipes.	hhd.	gals.	qts.	
10	4061	0	41	2	÷63
Y1	874	1	29	3	÷189
2	7046	0	51	1	÷768

DRY MEASURE.

	lasts.	weys.	qrs.	bush.	
Y3	906	1	3	5	÷16
4	2741	0	1	7	÷243
5	1008	0	2	3	÷364
6	413	1	4	6	÷719
7	7100	0	3	5	÷84
	qrs.	bush.	pks.	gals.	
8	1803	4	3	1	÷463
9	917	5	0	1	÷55
10	740	3	2	0	÷108

	qrs.	bush.	pks.	gals.	
Z1	4173	2	1	1	÷559
2	794	7	2	1	÷12
	bush.	pks.	gals.	qts.	
3	4163	2	1	3	÷29
4	687	3	0	1	÷308
5	406	1	1	2	÷72
6	5184	0	0	3	÷404
7	8701	2	1	2	÷568

COAL MEASURE.

	ch.	bush.	pks.	
Z 8	7684	13	3	÷33
9	846	32	1	÷468

	ch.	bush.	pks.	
10	1007	9	2	÷564
A2 1	904	10	1	÷121

PAPER.

	reams.	*q.*	*s.*
2	8416	14	13÷79
3	643	8	10÷103

	reams.	*q.*	*s.*
4	9217	11	8÷66

TIME.

		yrs.	*mths.*	*wks.*	*da.*
A 2	5	1401	7	3	5÷9
	6	746	11	0	3÷88
	7	4107	6	1	6÷305
	8	404	3	2	4÷187
		mths.	*wks.*	*da.*	*hr.*
	9	4106	2	3	16÷12
	10	384	1	4	22÷49
B 2	1	1064	0	5	8÷347
	2	906	2	6	11÷608

		wks.	*da.*	*hrs.*	*min.*
	3	3074	3	17	24÷54
	4	4106	6	19	37÷11
	5	208	4	8	6÷761
	6	304	5	23	56÷187
		da.	*hrs.*	*min.*	*sec.*
	7	7063	19	46	45÷28
	8	284	9	3	55÷465
	9	1406	13	41	9÷120
	10	7209	22	58	56÷964

QUESTIONS IN COMPOUND DIVISION.

A 1 How much daily is £31 18s. 9d. a year?

2 Paid 69 men £107 10s. 6d. for wages; how much is that per man?

3 Divide £8075 14s. 10½d. equally among 578 persons.

4 If 67 acres let for £110 0s. 7¼d.; how much is that per acre?

5 A man pays £3 11s. 0d. yearly for rent; how much must he lay by weekly to pay it?

6 How much per week is £600 17s. 5d. yearly?

7 Sugar at £3 7s. 8d. per cwt., is how much per lb.?

8 If a lb. of gold be worth £46 15s.; how much is a penny-weight worth?

9 Twenty-five persons paid £58 10s. 3¾d.; how much was that each?

10 How much per day is £426 4s. 3¼d. a year?

B 1 What sum multiplied by 59 produces £768 9s. 6d.?

2 A person pays £75 10s. 2d. by weekly payments in 13 weeks; how much is that per week?

3 Divide £317 10s. 8½d, equally among 17 men.

4 How much is meat per lb., if 19lbs. costs 13s. 5½d.?

5 Take 100 guineas from £500 18s., and divide the remainder into 37 equal parts.

6 Bought 7 pieces of silk, each 27 yards, for £153 3s. 9d ; how much did it cost per yard ?

7 If 93 oxen cost £1687 3s. 6d., what is that each ?

8 Nine persons paid £108 17s. 7½d. ; what was the share of each ?

9 A ton of iron cost £35 ; what is that per lb. ?

10 Two cwt. of cheese cost £7 14s. ; what is that per lb. ?

C 1 Divide £808 10s. 2¼d. into 57 equal parts.

2 What sum multiplied by 609 produces £10073 7s. 2¼d. ?

3 If an acre of land cost £5707 3s. 4d. ; how much is that per square yard ?

4 A person let 113 acres for £183 12s. 6d. ; how much is that per acre ?

5 A tradesman cleared £7744 15s. 6d. in 17 years ; what was the gain per year ?

6 What is the 96th part of £1086 16s. ?

7 If 53 purses contain £4307 11s. 6d. ; how much would be in each if equal ?

8 A person saves 155 guineas a year out of £658 10s. 10d. ; how much does he spend daily ?

9 What is the half-year's rent of one acre of land, if 135 acres let for £150 8s. 9d. yearly ?

10 What is the value of one coin, if 176 amount to £66 ?

D 1 A surveyor appointed 13 men to repair 38m. 7fur. 14p. of road ; how much had each ?

2 What length multiplied by 28 produces 95m. 5fur. 24p. 2yds. ?

3 A railway carriage travels 183m. 2fur. 12p. in 11 hours ; what rate is that per hour ?

4 A person went 3984m. 0fur. 30p. in 42 days ; at what rate is that per day ?

5 In 28 pieces of cloth of equal length there are 950yds. 1qr. ; how much in a piece ?

6 How many yards of cloth are there in a suit of clothes, when 39 suits take 141yds. 1qr. 2n. ?

7 Seventy-eight persons wove 565yds. 2 qrs. of cloth ; how much is that to each person ?

8 If 26 men can plough 180a. 1r. 20p. ; what will be the average per man ?

9 Divide 764 square yds. 8ft. 134in. by 110.

10 If 150 men dig 113a. 1r. 20p.; what would be each man's share?

E 1 Find the number of cubic yards in 16184736 cubic inches, and divide the result by 9.

2 Divide 376cu. yds. 23ft. 1078in. by 113.

3 Bought 18hhds. of sugar, weighing together 98cwt. 0qrs. 4lbs.; required the weight of each hogshead.

4 Suppose 26 cheeses to weigh 10cwt. 1qr. 22lbs.; what would be the weight of each?

5 If 19 bags of cotton weigh 62cwt. 0qr. 10lbs.; what will be the average weight per bag?

6 What weight multiplied by 47 produces 183cwt. 2qrs. 10lbs. 8oz.?

7 If 13st. 10lbs. 8oz. of meat be allowed 11 men for a week, how much is that per day for each man?

8 Required the weight of a guinea, if 45 can be coined from one pound of gold.

9 If 37 ingots of silver weigh 83lbs. 10oz. 12dwts. 15grs.; what is the weight of one?

10 Made 42lbs. 10oz. 16dwts. of silver into 18 tankards; what was the weight of each?

F 1 Required the weight of a piece of silver, when 119 pieces weigh 66lbs. 3oz. 1dwt. 9grs.

2 What is the weight of a doz. of tea spoons, if 22doz. weigh 25lbs. 6oz. 10dwts. 16grs.?

3 Eight persons bought 35 sheets of wool, each weighing 2packs 12st. 8lbs.; what quantity had each person, if divided equally?

4 Divide 313lasts 11sacks 1wey 10st. 10lbs. by 278.

5 Divide 3oz. 6drs. 2sc. 5grs. into 9 equal portions.

6 Twenty-seven parcels of drugs contained 13lbs. 9oz. 4drs. 1sc. 1gr.; how much did one contain?

7 Seventeen casks held 13hhds. 26gals. 3qts. of wine; how much did each hold?

8 A vessel has 225 sailors on board, and 28pun. 38gals. 2qts. 1pt. of rum are to be equally divided among them for 85 days; required the share of each, and how much per day.

9 A merchant sold 13hhds. 56gals. of brandy, 11hhds. 45gals. of gin, and 9hhds. 28 gals. of rum in 23 days; how much did he sell each day?

10 Six merchants bought 5tuns 2hhds. of cider, and sold it again to 12 retailers, what quantity had each merchant, and each retailer?

G 1 Allowing 3bar. 18gals. 1qt. of ale to 8 persons for 7 weeks; how much is that for each person per week?

2 There were 182weys 1qr. 2bush. of wheat sold to 135 persons in equal lots; what had each person?

3 If 37 acres produce 97qrs. 1bush., how much is that per acre?

4 Divide 376qrs. 5bush. 2pks. into 21 equal shares.

5 Sixteen horses consumed 20qrs. 5bush. of corn in 30 days; what was that per day?

6 If 265 men consume 314qrs. 5bush. 2pks. of wheat in a month; how much is that for each man?

7 In a solar year there are 365days 5hrs. 48min. 48sec.; how much in a 12th part of it?

8 A person walked 136 miles in 3days 4hrs. 48min.; how long was he in walking 4 miles, allowing 12 hours to the day?

9 A railway carriage went over 235 miles of road in 13hrs. 30m 45sec.; in what time was each mile performed?

10 If a steam packet sails 204 miles in 23hrs. 33m. 36sec., in what time would it sail a twelfth part of the distance?

GREATEST COMMON MEASURE.

No. 12.

Shew that the following numbers are prime to each other.

A 1	17 and 97	6	3719 and 5555
2	25 .. 113	7	4101 .. 6743
3	71 .. 111	8	7267 .. 7745
4	235 .. 371	9	6058 .. 92101
5	4003 .. 7033	10	4303 . 6740

Find the Greatest Common Measure of

B 1	741 and 969	6	1995 and 3255
2	896 .. 1344	7	396 .. 432
3	576 .. 1088	8	728 .. 936
4	1836 .. 3096	9	8484 .. 5252
5	525 .. 6126	10	6534 .. 39312

C 1	6370 and 2660	E 1	10800 and 41588
2	4524 .. 13572	2	8274 .. 14406
3	3519 .. 3897	3	25454 .. 40031
4	9768 .. 30525	4	35035 .. 36960
5	7200 .. 27792	5	7092 .. 24975
6	37275 .. 236215	6	10725 .. 17355
7	12870 .. 20826	7	15032 .. 19400
8	20826 .. 33489	8	1875 .. 2425
9	51450 .. 66150	9	16128 .. 18432
10	22548 .. 29100	10	135531 .. 597795
D 1	19551 .. 18620	F 1	333, 414 and 711
2	126684 .. 140292	2	192, 288 .. 1680
3	4851 .. 12705	3	814, 968 .. 1034
4	532500 .. 830700	4	816, 4760 .. 5780
5	47925 .. 303705	5	1365, 2590 .. 3010
6	29052 .. 57472	6	2835, 4680 .. 68049
7	3132 .. 9216	7	3264, 4896 .. 28560
8	8575 .. 6475	8	4329, 5382 .. 9243
9	2574 .. 4290	9	9768, 11616 .. 12408
10	29172 .. 9240	10	12285,23310 .. 27090

LEAST COMMON MULTIPLE.

No. 13.

Find the Least Common Multiple of

A 1	2, 3, 4, 6, 8	6	11, 12, 13, 14, 22, 26
2	4, 7, 8, 9, 12	7	20, 25, 30, 35, 45
3	6, 7, 14, 15, 25	8	14, 16, 18, 24, 28
4	7, 8, 9, 10, 12	9	15, 17, 34, 45, 55
5	7, 14, 21, 28, 35	10	22, 24, 26, 28, 34
6	4, 5, 6, 8, 10	C 1	4, 8, 12, 16, 24
7	5, 10, 15, 20, 25	2	5, 10, 15, 20, 25, 35
8	7, 10, 14, 25, 35	3	2, 3, 4, 5, 6, 7, 8, 9, 12
9	6, 8, 10, 12, 14, 16	4	4, 5, 6, 7, 8, 9, 10, 14
10	4, 5, 7, 9, 11, 22	5	8, 9, 10, 15, 18, 20, 30
B 1	7, 16, 21, 32, 42, 56	6	5, 10, 15, 16, 18, 32, 27
2	9, 11, 13, 26, 33, 36	7	8, 10, 12, 16, 24
3	7, 8, 12, 16, 21, 24	8	7, 11, 21, 22, 27, 36
4	2, 3, 4, 16, 18, 24	9	4, 6, 8, 10, 12, 14, 16, 18
5	7, 8, 10, 20, 25, 28	10	8, 10, 12, 14, 16, 20, 24, 28

Find the Least Common Multiple of

D 1	3, 6, 9, 12, 15, 20, 24	E 1	3, 6, 9, 12, 15, 18, 27
2	5, 8, 10, 12, 15, 25, 30	2	6, 8, 12, 15, 20, 26, 33
3	7, 14, 21, 28, 32, 42	3	12, 14, 18, 21, 24, 28, 42
4	8, 12, 16, 20, 24, 28, 32	4	15, 16, 18, 24, 13, 26, 48
5	4, 9, 16, 18, 27, 36	5	9. 12, 13, 20, 28, 36, 54
6	10, 12, 16, 28, 38, 49	6	7, 9, 16, 21, 42, 56, 63
7	26, 28, 30, 32, 34, 36	7	14, 18, 24, 35, 42, 68
8	11, 22, 28, 33, 44, 56	8	8, 15, 21, 32, 30, 48
9	12, 18, 24, 30, 38, 42	9	24, 32, 42, 54, 63, 72
10	14, 18, 24, 48, 56, 64	10	16, 18, 28, 36, 54, 88

VULGAR FRACTIONS.

No. 14.

CASE I.

Reduce to their lowest terms

A 1		B 1		C 1		D 1		E 1	
2		2		2		2		2	
3		3		3		3		3	
4		4		4		4		4	
5		5		5		5		5	
6		6		6		6		6	
7		7		7		7		7	
8		8		8		8		8	
9		9		9		9		9	
10		10		10		10		10	

CASE II.

Reduce to whole or mixed numbers

A 1		B 1		C 1		D 1		E 1	
2		2		2		2		2	
3		3		3		3		3	
4		4		4		4		4	
5		5		5		5		5	
6		6		6		6		6	
7		7		7		7		7	
8		8		8		8		8	
9		9		9		9		9	
10		10		10		10		10	

CASE III.

Reduce to improper fractions or to the same denomination,

A 1	$7\frac{3}{4}$	B 1	$56\frac{8}{9}$	C 1	$5\frac{11}{12}$	D 1	$156\frac{19}{20}$
2	$9\frac{11}{12}$	2	$67\frac{19}{24}$	2	$13\frac{37}{48}$	2	$111\frac{89}{90}$
3	$13\frac{5}{8}$	3	$73\frac{8}{10}$	3	$28\frac{101}{144}$	3	$87\frac{44}{45}$
4	$11\frac{5}{8}$	4	$89\frac{11}{12}$	4	$53\frac{37}{48}$	4	$31\frac{11}{12}$
5	$17\frac{3}{8}$	5	$93\frac{9}{10}$	5	$47\frac{11}{12}$	5	$125\frac{11}{12}$
6	$18\frac{11}{12}$	6	$100\frac{11}{12}$	6	$51\frac{77}{100}$	6	$58\frac{7}{9}$
7	$24\frac{9}{10}$	7	$118\frac{77}{100}$	7	$103\frac{97}{100}$	7	$112\frac{11}{12}$
8	$37\frac{13}{16}$	8	$123\frac{13}{16}$	8	$109\frac{89}{100}$	8	$145\frac{97}{99}$
9	$35\frac{11}{10}$	9	$231\frac{1}{100}$	9	$89\frac{11}{12}$	9	$99\frac{89}{100}$
10	$48\frac{11}{10}$	10	$315\frac{77}{100}$	10	$40\frac{111}{100}$	10	$77\frac{11}{12}$

CASE IV.

Reduce to their least common denominator,

A 1	$\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{7}{8}$	6	$\frac{3}{4}$, $\frac{5}{6}$, $\frac{7}{8}$, $\frac{9}{10}$, $\frac{11}{12}$
2	$\frac{3}{4}$, $\frac{7}{8}$, $\frac{9}{10}$, $\frac{5}{6}$	7	$\frac{7}{11}$, $\frac{3}{4}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$
3	$\frac{5}{6}$, $\frac{11}{12}$, $\frac{13}{14}$, $\frac{15}{16}$	8	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{9}{10}$, $\frac{9}{10}$, $\frac{99}{100}$
4	$\frac{9}{11}$, $\frac{13}{14}$, $\frac{23}{24}$, $\frac{47}{48}$	9	$\frac{9}{11}$, $\frac{9}{10}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{97}{98}$
5	$\frac{3}{4}$, $\frac{5}{6}$, $\frac{9}{10}$, $\frac{11}{12}$, $\frac{17}{18}$	10	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{9}{10}$, $\frac{11}{12}$, $\frac{23}{24}$
6	$\frac{7}{8}$, $\frac{9}{10}$, $\frac{11}{12}$, $\frac{13}{14}$, $\frac{15}{16}$	D 1	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$
7	$\frac{3}{4}$, $\frac{7}{8}$, $\frac{11}{12}$, $\frac{13}{14}$, $\frac{27}{28}$	2	$\frac{11}{12}$, $\frac{13}{14}$, $\frac{27}{28}$, $\frac{55}{56}$, $\frac{111}{112}$
8	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{23}{24}$	3	$\frac{7}{8}$, $\frac{19}{20}$, $\frac{39}{40}$, $\frac{79}{80}$, $\frac{159}{160}$
9	$\frac{3}{4}$, $\frac{11}{12}$, $\frac{13}{14}$, $\frac{15}{16}$, $\frac{23}{24}$	4	$\frac{5}{6}$, $\frac{17}{18}$, $\frac{35}{36}$, $\frac{71}{72}$, $\frac{143}{144}$
10	$\frac{7}{9}$, $\frac{19}{21}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{35}{36}$	5	$\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$, $\frac{95}{96}$, $\frac{191}{192}$
B 1	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{21}{22}$, $\frac{23}{24}$, $\frac{47}{48}$	6	$\frac{7}{8}$, $\frac{19}{20}$, $\frac{39}{40}$, $\frac{79}{80}$, $\frac{99}{100}$
2	$\frac{7}{8}$, $\frac{9}{10}$, $\frac{19}{20}$, $\frac{11}{12}$, $\frac{23}{24}$	7	$\frac{5}{6}$, $\frac{5}{6}$, $\frac{19}{21}$, $\frac{23}{24}$, $\frac{23}{24}$
3	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{21}{22}$, $\frac{9}{10}$, $\frac{11}{12}$	8	$\frac{9}{10}$, $\frac{11}{12}$, $\frac{99}{100}$, $\frac{23}{24}$, $\frac{3}{4}$
4	$\frac{3}{4}$, $\frac{3}{4}$, $\frac{5}{6}$, $\frac{21}{22}$, $\frac{11}{12}$	9	$\frac{5}{6}$, $\frac{7}{8}$, $\frac{19}{20}$, $\frac{11}{12}$, $\frac{21}{22}$
5	$\frac{11}{12}$, $\frac{19}{20}$, $\frac{23}{24}$, $\frac{23}{24}$, $\frac{11}{12}$	10	$\frac{3}{4}$, $\frac{7}{8}$, $\frac{21}{22}$, $\frac{17}{18}$, $\frac{35}{36}$
6	$\frac{3}{4}$, $\frac{19}{20}$, $\frac{19}{20}$, $\frac{21}{22}$, $\frac{11}{12}$	E 1	$\frac{19}{20}$, $\frac{21}{22}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$
7	$\frac{5}{6}$, $\frac{3}{4}$, $\frac{21}{22}$, $\frac{11}{12}$, $\frac{23}{24}$	2	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{19}{20}$, $\frac{9}{10}$, $\frac{49}{50}$
8	$\frac{5}{6}$, $\frac{21}{22}$, $\frac{19}{20}$, $\frac{23}{24}$, $\frac{47}{48}$	3	$\frac{5}{6}$, $\frac{19}{20}$, $\frac{49}{50}$, $\frac{21}{22}$, $\frac{11}{12}$
9	$\frac{3}{4}$, $\frac{5}{6}$, $\frac{19}{20}$, $\frac{17}{18}$, $\frac{35}{36}$	4	$\frac{3}{4}$, $\frac{19}{20}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{35}{36}$
10	$\frac{7}{9}$, $\frac{19}{21}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$	5	$\frac{5}{6}$, $\frac{49}{50}$, $\frac{11}{12}$, $\frac{11}{12}$, $\frac{17}{18}$
C 1	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{6}$, $\frac{7}{8}$, $\frac{11}{12}$	6	$\frac{5}{6}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{17}{18}$, $\frac{35}{36}$
2	$\frac{3}{4}$, $\frac{5}{6}$, $\frac{9}{10}$, $\frac{21}{22}$, $\frac{49}{50}$	7	$\frac{5}{6}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{21}{22}$
3	$\frac{7}{9}$, $\frac{21}{23}$, $\frac{19}{20}$, $\frac{21}{22}$, $\frac{23}{24}$	8	$\frac{9}{10}$, $\frac{99}{100}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{21}{22}$
4	$\frac{5}{7}$, $\frac{11}{12}$, $\frac{11}{12}$, $\frac{19}{20}$, $\frac{11}{12}$	9	$\frac{3}{4}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{17}{18}$, $\frac{11}{12}$
5	$\frac{5}{6}$, $\frac{21}{22}$, $\frac{19}{20}$, $\frac{23}{24}$, $\frac{11}{12}$	10	$\frac{1}{2}$, $\frac{11}{12}$, $\frac{19}{20}$, $\frac{21}{22}$, $\frac{11}{12}$

F 1	$\frac{4}{5}$, $\frac{3}{5}$, $\frac{5}{11}$, $\frac{3}{8}$, $\frac{1}{8}$	F 6	$\frac{5}{11}$, $\frac{5}{11}$, $\frac{5}{13}$, $\frac{1}{2}\frac{3}{5}$, $\frac{2}{3}\frac{1}{4}$
2	$\frac{5}{11}$, $\frac{1}{2}\frac{3}{5}$, $\frac{1}{3}\frac{7}{8}$, $\frac{5}{8}$, $\frac{2}{3}\frac{1}{4}$	7	$\frac{3}{4}$, $\frac{7}{13}$, $\frac{1}{3}\frac{7}{8}$, $\frac{5}{11}$, $\frac{5}{16}$
3	$\frac{5}{13}$, $\frac{1}{2}\frac{3}{5}$, $\frac{6}{7}$, $\frac{1}{4}\frac{9}{7}$, $\frac{1}{3}\frac{1}{4}$	8	$\frac{3}{5}$, $\frac{7}{13}$, $\frac{1}{3}\frac{1}{4}$, $\frac{1}{2}\frac{3}{5}$, $\frac{1}{3}\frac{2}{4}$
4	$\frac{4}{7}$, $\frac{7}{13}$, $\frac{5}{13}$, $\frac{2}{3}\frac{7}{5}$, $\frac{7}{16}$	9	$\frac{1}{3}\frac{1}{4}$, $\frac{2}{3}\frac{1}{4}$, $\frac{1}{3}\frac{1}{4}$, $\frac{2}{3}\frac{3}{5}$, $\frac{1}{3}\frac{1}{2}$
5	$\frac{5}{11}$, $\frac{4}{5}$, $\frac{7}{16}$, $\frac{1}{2}\frac{3}{5}$, $\frac{5}{11}$	10	$\frac{6}{8}$, $\frac{7}{8}$, $\frac{5}{11}$, $\frac{1}{2}\frac{3}{5}$, $\frac{2}{3}\frac{1}{4}$

ADDITION.

CASE V.

A 1	$\frac{4}{5}+\frac{6}{8}+\frac{6}{7}+\frac{4}{5}+\frac{4}{7}$	C 1	$3\frac{3}{5}+1\frac{3}{4}+4\frac{1}{2}+\frac{5}{6}+\frac{7}{8}$
2	$\frac{3}{8}+\frac{3}{8}+\frac{7}{8}+\frac{5}{10}+1\frac{1}{2}$	2	$7\frac{3}{4}+2\frac{3}{8}+8\frac{5}{7}+3\frac{7}{8}+5\frac{3}{8}$
3	$\frac{5}{10}+1\frac{1}{2}+1\frac{1}{2}+\frac{7}{8}+1\frac{1}{2}$	3	$11\frac{3}{8}+5\frac{5}{8}+3\frac{7}{8}+7\frac{3}{8}+3\frac{5}{10}$
4	$\frac{1}{3}+\frac{1}{4}+\frac{3}{8}+\frac{7}{8}+1\frac{3}{4}$	4	$2\frac{5}{7}+3\frac{7}{8}+1\frac{3}{8}+3\frac{5}{10}+7\frac{1}{2}$
5	$\frac{5}{11}+\frac{5}{11}+\frac{5}{11}+\frac{5}{11}+\frac{5}{11}$	5	$6\frac{3}{5}+4\frac{5}{10}+5\frac{1}{2}+3\frac{1}{2}+2\frac{1}{7}$
6	$\frac{5}{11}+\frac{3}{8}+\frac{5}{11}+\frac{1}{2}\frac{3}{5}+\frac{3}{3}\frac{3}{4}$	6	$3\frac{5}{10}+7\frac{1}{2}+8\frac{1}{2}+3\frac{1}{2}+\frac{3}{3}\frac{3}{5}$
7	$\frac{3}{8}+\frac{5}{11}+\frac{1}{2}+\frac{1}{2}+\frac{3}{8}$	7	$13\frac{3}{4}+11\frac{3}{8}+4\frac{7}{8}+2\frac{3}{4}+11\frac{1}{2}$
8	$\frac{3}{4}+\frac{3}{4}+\frac{3}{8}+1\frac{1}{2}+\frac{3}{3}\frac{1}{5}$	8	$20\frac{3}{8}+11\frac{7}{11}+10\frac{1}{2}+9\frac{1}{2}$
9	$\frac{7}{8}+\frac{1}{2}\frac{1}{4}+\frac{5}{10}+\frac{1}{2}\frac{3}{5}+\frac{5}{11}$	9	$5\frac{5}{7}+8\frac{1}{2}+3\frac{1}{2}+7\frac{5}{11}+8\frac{1}{2}$
10	$\frac{3}{8}+\frac{7}{8}+1\frac{1}{2}+\frac{3}{3}\frac{1}{5}+\frac{1}{2}\frac{1}{4}$	10	$7\frac{5}{8}+4\frac{1}{2}+3\frac{5}{7}+9\frac{1}{2}+\frac{3}{8}$
B 1	$\frac{5}{7}+\frac{5}{11}+\frac{3}{3}\frac{3}{5}+\frac{1}{2}\frac{3}{5}+\frac{1}{2}\frac{3}{5}$	D 1	$12\frac{3}{5}+4\frac{3}{8}+0\frac{1}{2}+6\frac{1}{2}+8\frac{7}{8}$
2	$\frac{3}{8}+\frac{5}{11}+\frac{5}{10}+\frac{1}{3}\frac{0}{5}+\frac{1}{3}\frac{3}{5}$	2	$10\frac{5}{11}+8\frac{5}{7}+5\frac{1}{2}+7\frac{3}{8}+1\frac{1}{2}$
3	$\frac{3}{8}+\frac{1}{2}\frac{0}{4}+\frac{1}{2}\frac{1}{4}+\frac{7}{3}\frac{4}{5}+\frac{1}{2}\frac{3}{5}$	3	$5\frac{5}{7}+3\frac{5}{10}+18\frac{1}{2}\frac{3}{5}+5\frac{1}{2}\frac{3}{5}+9\frac{1}{2}$
4	$\frac{7}{8}+\frac{5}{10}+\frac{1}{2}\frac{3}{5}+\frac{1}{2}\frac{7}{5}+\frac{4}{3}\frac{7}{5}$	4	$3\frac{1}{2}\frac{1}{4}+1\frac{1}{2}\frac{3}{5}+\frac{7}{8}+\frac{3}{4}+9\frac{3}{8}$
5	$\frac{3}{8}+\frac{1}{2}\frac{3}{5}+\frac{1}{2}\frac{3}{5}+\frac{3}{2}\frac{7}{4}+\frac{3}{2}\frac{1}{4}$	5	$4\frac{3}{5}+8\frac{7}{11}+\frac{3}{2}\frac{1}{4}+1\frac{7}{8}+10\frac{3}{8}$
6	$\frac{5}{11}+\frac{5}{10}+\frac{1}{2}\frac{1}{4}+\frac{3}{2}\frac{3}{4}+\frac{1}{2}\frac{3}{5}$	6	$11\frac{1}{4}+13\frac{7}{8}+15\frac{5}{11}+\frac{1}{2}\frac{3}{5}+\frac{1}{2}$
7	$\frac{7}{13}+\frac{1}{2}\frac{3}{5}+\frac{3}{3}\frac{3}{5}+\frac{1}{2}\frac{3}{5}+\frac{3}{3}\frac{5}{5}$	7	$9\frac{3}{4}+11\frac{3}{8}+1\frac{7}{8}+10\frac{1}{2}\frac{1}{4}+5\frac{7}{8}$
8	$\frac{3}{8}+\frac{7}{13}+\frac{5}{10}+\frac{1}{2}\frac{1}{4}+\frac{3}{2}\frac{1}{4}$	8	$13\frac{5}{7}+\frac{1}{2}\frac{3}{5}+6\frac{3}{8}+8\frac{3}{8}+\frac{3}{3}\frac{3}{5}$
9	$\frac{5}{7}+\frac{1}{2}\frac{3}{4}+\frac{1}{2}\frac{1}{4}+\frac{1}{2}\frac{3}{5}+\frac{3}{3}\frac{1}{5}$	9	$4\frac{3}{5}+14\frac{5}{13}+15\frac{3}{5}+\frac{1}{2}\frac{3}{4}+16\frac{7}{8}$
10	$\frac{3}{5}+\frac{1}{2}\frac{3}{4}+\frac{1}{2}\frac{7}{5}+\frac{1}{2}\frac{1}{4}+\frac{3}{3}\frac{7}{0}$	10	$13\frac{3}{4}+8\frac{5}{8}+\frac{1}{2}\frac{3}{5}+3\frac{1}{2}\frac{1}{4}+\frac{3}{3}\frac{7}{5}$

SUBTRACTION.

CASE VI.

A 1	$\frac{3}{5}-\frac{3}{5}$	B 1	$\frac{2}{4}\frac{7}{0}-\frac{1}{3}\frac{3}{5}$	C 1	$22\frac{7}{13}-16\frac{3}{5}$
2	$\frac{1}{1}\frac{1}{3}-\frac{7}{13}$	2	$\frac{1}{2}\frac{1}{4}-\frac{1}{1}\frac{1}{3}$	2	$15\frac{5}{11}-8\frac{4}{7}$
3	$\frac{4}{7}-\frac{5}{11}$	3	$\frac{7}{8}-\frac{3}{5}\frac{0}{5}$	3	$7\frac{5}{11}-2\frac{5}{13}$
4	$\frac{3}{5}-\frac{4}{13}$	4	$\frac{1}{1}\frac{3}{5}-\frac{5}{11}$	4	$19\frac{3}{5}-8\frac{4}{7}$
5	$\frac{1}{1}\frac{1}{3}-\frac{4}{7}$	5	$\frac{3}{3}\frac{4}{5}-\frac{1}{2}$	5	$20\frac{1}{1}\frac{1}{3}-5\frac{1}{3}\frac{3}{5}$
6	$\frac{7}{13}-\frac{3}{5}$	6	$8-1\frac{1}{2}$	6	$7\frac{3}{4}-2\frac{3}{5}$
7	$\frac{4}{7}-\frac{7}{11}$	7	$9-\frac{4}{7}$	7	$13\frac{3}{5}-9\frac{4}{7}$
8	$\frac{6}{7}-\frac{3}{5}$	8	$2\frac{7}{8}-1\frac{1}{3}$	8	$8\frac{1}{2}-4\frac{1}{1}\frac{1}{3}$
9	$\frac{1}{2}\frac{3}{5}-\frac{4}{11}$	9	$11\frac{3}{5}-3\frac{5}{10}$	9	$19\frac{4}{7}-13\frac{3}{5}$
10	$\frac{3}{3}\frac{3}{5}-\frac{1}{2}\frac{7}{5}$	10	$13\frac{1}{2}-7\frac{5}{8}$	10	$26\frac{3}{5}-9\frac{1}{2}\frac{3}{5}$

D 1	$11-8\frac{2}{3}$	E 1	$4\frac{1}{2}+5\frac{2}{3}-3\frac{1}{4}+11\frac{1}{2}-13+6\frac{2}{3}$
2	$23\frac{1}{3}-9\frac{1}{12}$	2	$7\frac{1}{4}-3\frac{2}{3}-3\frac{7}{8}+9\frac{2}{3}+8-15\frac{1}{2}$
3	$19\frac{5}{6}-14\frac{7}{8}$	3	$4\frac{1}{2}-2\frac{2}{3}+8\frac{1}{2}-6\frac{1}{2}+5\frac{2}{3}-1\frac{9}{10}$
4	$16\frac{2}{3}-15\frac{5}{6}$	4	$9\frac{2}{3}+3\frac{1}{2}+7\frac{5}{6}-6\frac{5}{6}-4\frac{1}{12}-2\frac{2}{3}$
5	$23\frac{1}{12}-23\frac{7}{8}$	5	$2\frac{2}{3}+8\frac{5}{6}-3\frac{1}{2}-6\frac{2}{3}+7\frac{1}{2}-4\frac{2}{3}$
6	$34-33\frac{1}{12}$	6	$6\frac{2}{3}-3\frac{9}{11}+7\frac{5}{6}-9\frac{2}{3}+8\frac{1}{2}-6\frac{7}{8}$
7	$25\frac{1}{2}-11\frac{1}{12}$	7	$11\frac{5}{6}-9\frac{5}{6}+8\frac{1}{2}-4+14-11\frac{5}{6}$
8	$18-13\frac{1}{2}$	8	$5\frac{1}{2}-2\frac{7}{8}+9\frac{5}{6}-8\frac{7}{8}+\frac{1}{2}-6\frac{1}{12}$
9	$63-20\frac{1}{12}$	9	$7\frac{1}{2}+1\frac{5}{6}-6\frac{1}{2}-2\frac{1}{2}+\frac{1}{2}-\frac{1}{12}$
10	$7\frac{9}{10}-5\frac{9}{11}$	10	$6\frac{5}{6}-5\frac{5}{6}+9\frac{7}{11}-8\frac{1}{2}-\frac{9}{10}+20$

MULTIPLICATION.

CASE VII.

A 1	$\frac{1}{2}\times\frac{1}{2}$	B 1	$7\frac{5}{6}\times11\frac{1}{2}$
2	$\frac{2}{3}\times\frac{2}{3}$	2	$11\frac{1}{2}\times15\frac{5}{6}$
3	$\frac{7}{8}\times\frac{9}{10}$	3	$9\frac{2}{3}\times3\frac{7}{8}$
4	$\frac{1}{12}\times\frac{2}{3}$	4	$13\frac{1}{2}\times\frac{1}{12}$
5	$\frac{7}{8}\times\frac{1}{12}$	5	$20\times7\frac{9}{10}$
6	$\frac{1}{12}\times\frac{9}{11}$	6	$\frac{7}{8}\times\frac{2}{3}\times\frac{5}{6}$
7	$9\times\frac{7}{8}$	7	$\frac{5}{6}\times\frac{1}{2}\times\frac{9}{10}$
8	$\frac{5}{6}\times7$	8	$\frac{5}{6}\times\frac{7}{10}\times\frac{1}{11}$
9	$10\times2\frac{5}{6}$	9	$\frac{5}{6}\times\frac{5}{6}\times\frac{2}{3}\times\frac{1}{12}$
10	$2\frac{1}{2}\times3\frac{7}{8}$	10	$\frac{7}{8}\times\frac{1}{12}\times\frac{3}{11}\times\frac{1}{12}$

C 1	$2\frac{2}{3}\times7\frac{1}{2}\times5\frac{1}{12}$		
2	$9\frac{5}{6}\times15\times9\frac{1}{2}$		
3	$4\frac{1}{2}\times8\frac{5}{6}\times9\frac{9}{10}$		
4	$5\frac{5}{6}\times\frac{1}{12}\times30$		
5	$7\frac{5}{6}\times25\times\frac{1}{12}$		
6	$10\frac{5}{6}\times\frac{7}{8}\times9\frac{9}{11}$		
7	$5\frac{5}{6}\times7\frac{1}{2}\times17\frac{9}{11}$		
8	$24\times\frac{9}{11}\times16\frac{9}{11}$		
9	$2\frac{5}{6}\times13\frac{1}{2}\times7\frac{7}{10}$		
10	$10\frac{1}{2}\times20\frac{5}{6}\times25\frac{9}{11}$		

DIVISION.

CASE VIII.

A 1	$\frac{1}{12}\div\frac{2}{3}$	B 1	$8\div2\frac{2}{3}$
2	$\frac{5}{6}\div1\frac{1}{12}$	2	$10\frac{5}{6}\div10\frac{1}{12}$
3	$\frac{1}{2}\div\frac{1}{12}$	3	$7\frac{9}{10}\div1\frac{1}{12}$
4	$\frac{2}{3}\div\frac{5}{6}$	4	$13\frac{1}{2}\div1\frac{5}{6}$
5	$\frac{7}{8}\div\frac{7}{8}$	5	$12\frac{1}{12}\div12\frac{1}{2}$
6	$\frac{9}{10}\div\frac{2}{3}$	6	$18\frac{1}{12}\div11\frac{5}{6}$
7	$\frac{1}{12}\frac{5}{6}\div\frac{5}{6}$	7	$3\frac{9}{11}\div1\frac{1}{12}$
8	$\frac{5}{6}\div\frac{9}{11}$	8	$47\frac{9}{10}\div3\frac{5}{6}$
9	$\frac{1}{12}\frac{5}{6}\div1\frac{1}{12}$	9	$11\frac{9}{10}\div1\frac{5}{6}$
10	$\frac{2}{3}\frac{5}{6}\div\frac{1}{12}\frac{5}{6}$	10	$17\frac{5}{6}\frac{1}{1}\div2\frac{1}{10}$

C 1	$4\frac{9}{11}\div\frac{9}{11}$		
2	$8\frac{7}{10}\div1\frac{5}{6}$		
3	$3\frac{5}{6}\div2\frac{7}{8}$		
4	$10\frac{5}{6}\div\frac{5}{6}$		
5	$7\frac{1}{2}\div5\frac{5}{6}$		
6	$13\frac{1}{12}\div\frac{5}{6}$		
7	$14\frac{1}{12}\div8\frac{5}{6}$		
8	$13\frac{9}{11}\div4\frac{5}{6}$		
9	$21\frac{1}{12}\div1\frac{5}{12}$		
10	$26\frac{1}{2}\div6\frac{1}{2}$		

SIMPLIFICATION OF FRACTIONS.

CASE IX.

Express in one term,

A 1 $\frac{3}{5}$ of $\frac{2}{3}$ of $\frac{5}{6}$
2 $\frac{3}{4}$ of $\frac{4}{5}$ of $\frac{9}{10}$
3 $\frac{5}{6}$ of $\frac{3}{5}$ of $1\frac{1}{2}$
4 $\frac{1}{2}$ of $\frac{2}{3}$ of $\frac{3}{5}$
5 $\frac{7}{8}$ of $\frac{4}{5}$ of $\frac{1}{2}\frac{0}{7}$
6 $\frac{5}{6}$ of $1\frac{1}{5}$ of $\frac{4}{7}$
7 $\frac{4}{5}$ of $\frac{5}{8}$ of $\frac{6}{7}$
8 $\frac{7}{9}$ of $\frac{3}{14}$ of $\frac{7}{11}$
9 $1\frac{1}{2}$ of $\frac{1}{3}\frac{2}{5}$ of $\frac{9}{7}$
10 $\frac{5}{6}$ of $\frac{1}{4}$ of $\frac{1}{3}\frac{1}{5}\frac{5}{6}$

B 1 $\frac{1}{2}$ of $\frac{2}{3}$ of $\frac{3}{4}$ of $\frac{7}{8}$
2 $\frac{3}{4}$ of $\frac{7}{8}$ of $\frac{5}{6}$ of $\frac{9}{10}$
3 $\frac{3}{5}$ of $\frac{5}{6}$ of $\frac{3}{11}$ of $1\frac{1}{2}$
4 $\frac{3}{7}$ of $\frac{5}{6}$ of $\frac{9}{10}$ of $1\frac{2}{5}$
5 $\frac{9}{10}$ of $\frac{2}{3}$ of $\frac{5}{6}$ of $\frac{3}{11}$
6 $\frac{5}{6}$ of $\frac{3}{5}$ of $\frac{3}{4}$ of $\frac{9}{14}$
7 $\frac{3}{5}$ of $\frac{5}{6}$ of $1\frac{2}{5}$ of $\frac{1}{3}$
8 $\frac{2}{5}$ of $\frac{5}{6}$ of $\frac{9}{10}$ of $\frac{7}{8}$
9 $\frac{3}{5}$ of $\frac{4}{5}$ of $\frac{5}{6}$ of $\frac{9}{10}$
10 $\frac{7}{8}$ of $\frac{3}{5}$ of $1\frac{1}{4}$ of $\frac{8}{11}$

C 1 $2\frac{1}{2}$ of 3 of $\frac{7}{8}$ of $5\frac{1}{7}$
2 $\frac{7}{8}$ of 9 of $2\frac{1}{2}$ of 20
3 $6\frac{1}{8}$ of $\frac{1}{4}\frac{1}{9}$ of 11 of $8\frac{1}{4}$
4 $\frac{5}{6}$ of 1 of $3\frac{1}{5}$ of $\frac{7}{8}$
5 $5\frac{1}{3}$ of $\frac{3}{5}$ of $\frac{3}{10}$ of 6
6 $\frac{3}{5}$ of $1\frac{1}{3}$ of $9\frac{1}{7}$ of 10
7 $\frac{3}{5}$ of $2\frac{1}{3}$ of $5\frac{1}{4}$ of $\frac{2}{3}$
8 $2\frac{1}{12}$ of $8\frac{3}{4}$ of $1\frac{1}{3}$ of $4\frac{1}{2}$
9 $\frac{7}{8}$ of $3\frac{1}{7}$ of 16 of $2\frac{1}{7}$
10 $\frac{2}{3}$ of $9\frac{1}{2}$ of $3\frac{1}{2}$ of 8

D 1 $\frac{2}{3}$ of $3\frac{1}{3}$ of 6 of $\frac{9}{10}$
2 $\frac{7}{8}$ of 11 of $\frac{8}{11}$ of $3\frac{1}{2}$
3 $\frac{5}{6}$ of $2\frac{1}{2}$ of $\frac{9}{10}$ of $\frac{4}{5}$
4 13 of $\frac{7}{8}$ of $\frac{3}{13}$ of $\frac{1}{14}$
5 $\frac{4}{5}$ of $1\frac{1}{2}$ of $7\frac{8}{10}$ of $\frac{1}{3}\frac{3}{5}$
6 $4\frac{1}{2}$ of $\frac{4}{5}$ of $8\frac{3}{4}$ of $\frac{2}{3}\frac{1}{5}$
7 $3\frac{1}{2}$ of $\frac{3}{5}$ of $5\frac{1}{3}$ of $\frac{1}{2}\frac{1}{2}$
8 $7\frac{1}{2}$ of $\frac{9}{10}$ of 10 of $\frac{7}{9}$
9 $5\frac{1}{2}$ of $1\frac{2}{3}$ of $6\frac{3}{4}$ of 14
10 $9\frac{1}{2}$ of $\frac{8}{11}$ of 20 of $\frac{3}{4}$

CASE X.

Reduce to the simplest form,

A 1 $\frac{\frac{3}{5}}{\frac{4}{5}}$
2 $\frac{\frac{7}{8}}{\frac{9}{11}}$
3 $\frac{\frac{5}{12}}{\frac{4}{5}}$
4 $\frac{\frac{7}{8}}{\frac{3}{5}}$

A 5 $\frac{\frac{4}{5}}{\frac{7}{12}}$
6 $\frac{\frac{9}{11}}{\frac{12}{13}}$
7 $\frac{1\frac{2}{3}}{\frac{3}{5}\frac{1}{0}}$
8 $\frac{1\frac{2}{3}}{\frac{3}{5}\frac{9}{1}}$

A 9 $\frac{1\frac{1}{2}}{\frac{3}{4}\frac{1}{2}}$
10 $\frac{\frac{3}{5}\frac{3}{5}}{\frac{4}{5}\frac{4}{1}}$

B 1 $\frac{7\frac{1}{2}}{8}$
2 $\frac{11\frac{5}{6}}{12\frac{1}{2}}$

B 3 $\frac{9}{6\frac{3}{4}}$
4 $\frac{10\frac{7}{8}}{11\frac{1}{2}\frac{1}{3}}$
5 $\frac{4\frac{1}{2}}{9\frac{1}{3}}$
6 $\frac{11}{14\frac{7}{8}}$

B 7 $\frac{13\frac{9}{10}}{21}$

C 1 $\frac{2\frac{1}{2}}{3\frac{3}{4}}$ of $\frac{3\frac{1}{5}}{7\frac{1}{2}}$

C 5 $\frac{4\frac{7}{12}}{5\frac{1}{3}}$ of $\frac{4\frac{5}{12}}{6\frac{1}{12}}$

8 $\frac{9\frac{1}{2}}{\frac{1}{6}}$ of $\frac{}{11\frac{1}{3}}$

8 $\frac{20\frac{1}{2}}{33\frac{3}{5}}$

2 $\frac{6\frac{1}{4}}{7\frac{1}{8}}$ of $\frac{2\frac{7}{8}}{9\frac{1}{2}}$

6 $\frac{6\frac{3}{4}}{9\frac{7}{8}}$ of $\frac{7\frac{1}{8}}{6\frac{11}{12}}$

9 $\frac{4\frac{2}{3}}{9}$ of $\frac{}{8}$

9 $\frac{16\frac{2}{3}}{23\frac{1}{8}}$

3 $\frac{8\frac{1}{3}}{10\frac{1}{7}}$ of $\frac{6\frac{1}{4}}{11\frac{2}{3}}$

7 $\frac{8\frac{1}{2}}{9\frac{7}{8}}$ of $\frac{10\frac{1}{8}}{11\frac{5}{12}}$

10 $\frac{3}{6\frac{7}{8}}$ of $\frac{11\frac{1}{2}}{19}$

10 $\frac{14\frac{3}{8}}{5\frac{1}{4}}$

4 $\frac{8\frac{1}{7}}{9\frac{3}{8}}$ of $\frac{12\frac{2}{3}}{13\frac{3}{8}}$

CASE XI.

Express in the simplest form the result of,

A 1 $\frac{1}{3}$ of $\frac{2}{3} \times 7\frac{3}{8}$

2 $\frac{4}{5}$ of $\frac{9}{10} \div 2\frac{2}{3}$

3 $\frac{7}{10}$ of $\frac{5}{8} \times 3\frac{1}{7}$

4 $\frac{2}{7}$ of $\frac{3}{8} \times 9\frac{1}{12}$

5 $\frac{5}{11}$ of $4\frac{2}{10} - 1\frac{1}{2}$

6 $1\frac{1}{3}$ of $\frac{15}{16} \div 8\frac{1}{2}$

7 $\frac{7}{12}$ of $\frac{2}{15} \times 11\frac{2}{3}$

8 $\frac{11}{12}$ of $\frac{7}{12} \times 10\frac{7}{11}$

9 $\frac{3}{10}$ of $\frac{9}{11} \div 19\frac{2}{3}$

10 $\frac{2}{15}$ of $1\frac{1}{12} \div 20\frac{1}{12}$

B 1 $3\frac{2}{3}$ of $13 \times \frac{3}{5}$ of $\frac{2}{3}$

2 $7\frac{2}{3}$ of $5\frac{1}{4} - 4\frac{1}{2}$ of 9

3 $1\frac{1}{12}$ of $9\frac{3}{5} \times 6$ of $\frac{7}{8}$

4 $2\frac{1}{12}$ of $\frac{3}{11} \div 2\frac{1}{2}$ of $\frac{1}{12}$

5 $4\frac{5}{11}$ of $7\frac{5}{10} - 2\frac{1}{2}$ of 11

6 $\frac{3}{4}$ of $4\frac{9}{10} \times 6\frac{2}{3}$ of $1\frac{7}{11}$

7 $5\frac{2}{3}$ of $9\frac{1}{2} \div 3\frac{5}{12}$ of $1\frac{3}{4}$

8 $4\frac{5}{12}$ of $\frac{2}{5}\frac{2}{3} - 2\frac{7}{12}$ of $\frac{5}{11}$

9 $12\frac{1}{2}$ of $3\frac{9}{10} \div 8\frac{5}{11}$ of $\frac{3}{5}\frac{3}{3}$

10 7 of $5\frac{1}{4} - 2\frac{1}{2}$ of $3\frac{3}{10}$

C 1 $\frac{\frac{1}{2} \text{ of } \frac{3}{5}}{\frac{2}{3} \text{ of } \frac{3}{4}} \times \frac{\frac{3}{5} \text{ of } \frac{7}{8}}{\frac{2}{3} \text{ of } 1\frac{1}{2}}$

2 $\frac{3\frac{1}{2} \text{ of } \frac{4}{5}}{2\frac{2}{3} \text{ of } 3\frac{1}{3}} \div \frac{2\frac{5}{11} \text{ of } 1\frac{1}{2}}{3\frac{1}{5} \text{ of } 7\frac{1}{4}}$

3 $\frac{7\frac{1}{5} \text{ of } 9\frac{3}{5}}{6\frac{2}{3} \text{ of } 1\frac{1}{2}} + \frac{3\frac{1}{5} \text{ of } 3\frac{1}{3}}{4\frac{1}{2} \text{ of } \frac{9}{5}\frac{9}{5}}$

4 $\frac{8\frac{3}{4} \text{ of } \frac{9}{10}}{6\frac{1}{4} \text{ of } \frac{4}{5}\frac{7}{7}} - \frac{5\frac{1}{7} \text{ of } 6\frac{3}{5}}{9\frac{3}{5} \text{ of } 3\frac{1}{5}}$

5 $\frac{7\frac{3}{5} \text{ of } \frac{3}{11}}{11\frac{9}{11} \text{ of } 3\frac{3}{10}} \times \frac{3\frac{3}{4} \text{ of } \frac{9}{10}}{\frac{1}{2} \text{ of } \frac{9}{5}\frac{9}{5}}$

6 $\frac{7\frac{1}{7} \text{ of } 9\frac{3}{5}}{3\frac{9}{11} \text{ of } 3\frac{1}{7}} \div \frac{4\frac{1}{2} \text{ of } \frac{9}{11}}{5\frac{1}{5} \text{ of } \frac{9}{5}\frac{9}{5}}$

7 $\frac{3\frac{1}{2} \text{ of } 4\frac{4}{7}}{1\frac{7}{8} \text{ of } 3} - \frac{7\frac{1}{2} \text{ of } 3\frac{1}{7}}{6\frac{1}{5} \text{ of } 9\frac{1}{7}}$

8 $\frac{9\frac{3}{5} \text{ of } \frac{5}{11}}{6\frac{10}{11} \text{ of } \frac{3}{5}} + \frac{6\frac{3}{5} \text{ of } \frac{9}{10}}{4\frac{1}{5} \text{ of } 2\frac{1}{11}}$

9 $\frac{11 \text{ of } \frac{7}{5}}{13 \text{ of } \frac{11}{2}\frac{1}{5}} \div \frac{6\frac{3}{7} \text{ of } 14}{3\frac{1}{5} \text{ of } 3\frac{7}{5}\frac{7}{5}}$

10 $\frac{1\frac{7}{5} \text{ of } 3\frac{7}{11}}{1\frac{1}{3} \text{ of } 9\frac{9}{11}} \times \frac{2\frac{5}{8} \text{ of } 1\frac{3}{5}\frac{3}{5}}{4\frac{1}{7} \text{ of } 1\frac{3}{5}\frac{1}{0}}$

D 1 $(\frac{7}{8} - \frac{5}{10}) \times (2\frac{3}{4} + 3\frac{1}{5})$

2 $(7\frac{1}{7} + \frac{3}{8} - 5\frac{1}{5}) \div (4\frac{1}{7} - 3\frac{3}{7})$

3 $(6\frac{1}{3} - 3\frac{7}{8} + \frac{5}{8}) \times (3\frac{7}{10} - 2\frac{1}{5} + 1\frac{1}{10})$

4 $(\frac{3}{4} + 1\frac{1}{12} - \frac{2}{11}) \div (4\frac{1}{5} - 3\frac{3}{5} + \frac{7}{10})$

5 $(6\frac{5}{12} - 3\frac{1}{30}) \times (4\frac{1}{5} + \frac{7}{12}) \times (6\frac{3}{4} - \frac{5}{12})$

6 $(\frac{9}{17} - \frac{5}{16}) \times (5\frac{1}{8} + 2\frac{7}{15}) \times (3\frac{5}{6} - 1\frac{1}{12})$

7 $(5\frac{1}{2}\frac{1}{4} + 3\frac{9}{20} - \frac{2}{5}) \div (4\frac{3}{8} - 2\frac{2}{7} + 6\frac{1}{4})$

8 $(8\frac{3}{17}\frac{9}{0} - 2\frac{7}{17}\frac{7}{2}) \times (4\frac{3}{8} + \frac{9}{17} - \frac{1}{4}) \times (6\frac{3}{8} - \frac{7}{17}\frac{7}{2})$

9 $\left(\frac{2\frac{1}{4} \text{ of } 7\frac{7}{9}}{4\frac{3}{8} \text{ of } 5\frac{1}{7}} - \frac{3\frac{3}{4} \text{ of } 3\frac{1}{8}}{7\frac{1}{2} \text{ of } 10}\right) \times (\frac{3}{5} \text{ of } \frac{7}{17}\frac{7}{2} + 4\frac{1}{1}\frac{1}{2})$

10 $\left(\frac{3 \text{ of } 4\frac{3}{5}}{7\frac{1}{4} \text{ of } 4\frac{2}{5}} + \frac{3\frac{3}{5} \text{ of } 8\frac{5}{9}}{3\frac{7}{8} \text{ of } 2\frac{1}{5}}\right) \div \frac{\frac{3}{4} \text{ of } 2\frac{1}{5}}{3\frac{3}{5} \text{ of } 8\frac{7}{8}}$

CASE XII.

CONVERSION OF THE VALUES OF FRACTIONS.

Express in positive terms,

A 1	$\frac{1}{2}\frac{1}{4}\frac{1}{0}$ of a £	C 1	$\frac{6}{7}$ of a cwt.
2	$\frac{2}{17}\frac{3}{6}$ of a guinea	2	$\frac{9}{17}$ of a ton
3	$\frac{5}{8}$ of a shilling	3	$\frac{7}{8}$ of a qr.
4	$\frac{7}{17}$ of a crown	4	$\frac{6}{7}$ of a lb. (troy)
5	$1\frac{1}{2}$ of 10s. 0d.	5	$\frac{9}{17}$ of an oz.
6	$\frac{1}{17}\frac{9}{d}$ of a moidore	6	$\frac{2}{3}\frac{5}{0}$ of a pack of wool
7	$1\frac{3}{5}$ of half a crown	7	$\frac{1}{4}\frac{3}{8}$ of a lb. (apoth.)
8	$\frac{1}{17}\frac{7}{2}$ of half a sovereign	8	$\frac{1}{2}\frac{1}{4}$ of an oz.
9	$\frac{8}{2}\frac{8}{1}$ of a moidore	9	$\frac{1}{1}\frac{1}{7}\frac{7}{0}$ of a hhd of wine
10	$\frac{1}{2}\frac{1}{2}\frac{1}{6}$ of a £	10	$\frac{7}{8}$ of a tun
B 1	$\frac{9}{17}\frac{9}{7}\frac{7}{0}$ of a mile	D 1	$\frac{4}{6}$ of a bar. of ale
2	$\frac{7}{17}\frac{7}{1}$ of a pole	2	$\frac{3}{5}$ of a firkin
3	$\frac{5}{9}$ of a league	3	$\frac{7}{17}\frac{7}{2}$ of a hhd.
4	$\frac{3}{4}$ of a french ell	4	$\frac{9}{17}\frac{9}{0}$ of a last of corn
5	$\frac{9}{2}\frac{9}{0}$ of an eng. ell	5	$\frac{1}{4}$ of a quarter
6	$\frac{1}{2}\frac{7}{8}$ of a yard	6	$\frac{7}{8}$ of a bushel
7	$\frac{8}{9}\frac{0}{0}\frac{1}{5}$ of a sq. yard	7	$\frac{1}{17}\frac{8}{5}$ of a chaldron
8	$\frac{1}{17}\frac{1}{2}\frac{9}{1}$ of an acre	8	$\frac{4}{6}$ of a ream
9	$\frac{9}{17}\frac{9}{1}$ of a cubic yd.	9	$\frac{4}{5}$ of 365 days
10	$\frac{7}{8}$ of a cubic foot	10	$\frac{1}{1}\frac{1}{2}$ of a month

CASE XIII.

	Express	in terms of	Express		in terms of
A 1	9 pence	a £	6	13s. $11\frac{1}{2}$d.	a £
2	7s. 8d.	21s.	7	14s. $8\frac{1}{4}$d.	21s.
3	4s. $7\frac{1}{2}$d.	5s.	8	19s. $2\frac{1}{4}$d.	27s.
4	$8\frac{3}{4}$d.	27s.	9	1s. $7\frac{1}{2}$d.	2s. 6d.
5	7s. $7\frac{1}{2}$d.	10s. 0d.	10	5s. $9\frac{1}{2}$d.	10s. 6d.

	Express	in terms of
B 1	3fur. 24p. 3yds.	a mile
2	17p. 4yds. 2½ft.	a lea.
3	3qrs. 2⅜ n.	an eng. ell
4	1yd. 1qr. 3¼n.	a fr. ell
5	3r. 27½p.	an acre
6	3ft. 85⅞in.	a sq. yd.
7	16ft. 1008in.	a cu. yd.
8	1666⅔cu. in.	a cu. yd
9	17cwt. 1qr. 8lbs.	a ton
10	3qr. 14lbs.	a cwt.
C 1	17lbs. 13oz. 12dr.	a cwt.
2	7oz. 14⅜dr.	a qr.
3	5oz. 13dwt. 16gr.	a lb.
4	17dwt. 9⅝gr.	an oz.
5	1st. 12lb.	a tod
6	136½lbs.	a pack
7	5dr. 1sc. 15gr.	a lb.
8	3oz. 7dr. 1⅜sc.	a lb.
9	19gal. 2qt. 1½pt.	63 gals.
10	3hhds. 38gal. 1pt.	a tun
D 1	19gal. 3qt. 1⅜pt.	a bar.
2	28gals. 2¾qts.	a hhd.
3	3pks. 1⅝gal.	a qr.
4	5bu. 3pks. 1$\frac{3}{10}$gal.	a wey
5	1gal. 3qts. 1⅜pt.	a bush.
6	2bush. 3½pks.	a sack
7	7quires 17shts.	a ream
8	3hrs. 13m. 20sec.	a day
9	60days 21hrs.	365¼ d.
10	3wk. 6d. 16hrs.	28 days
E 1	2⅖ of £1 2s. 2d.	3 gui.
2	5⅗ crowns	£5
3	3⅞ of 2cwt. 1qr.	10cwt.
4	3⅛ of 3qrs. 12lbs.	28cwt.
5	4⅓ E. ells.	2yds. 3qrs.
6	1⅔ of 2a. 1r.	3a. 2½r.
7	2⅔ of 100yds.	3⅓ miles.
8	3⅓ of 5fur. 35p.	4⅔m.
9	5⅔ mths.	13mths.
10	*6⅔ of 365¼days*	3 years

	Express	in terms of
F 1	⅘ of a far.	a £
2	⅝ of a 1d.	21s.
3	$\frac{7}{10}$ of 1s.	a £
4	⅚ of a £	a far.
5	⅜ of 21s.	1s.
6	$\frac{9}{10}$ of 5s.	1d.
7	¾ of 21s.	a £
8	1½ of a £	27s.
9	⅞ of 21s.	5s.
10	⅝ of a £	21s.
G 1	⅞ of 6d.	10s. 6d.
2	⅞ of 27s.	2s. 6d.
3	⅝ of 1d.	a £
4	$\frac{7}{10}$ of 13s 4d.	5s.
5	$\frac{5}{10}$ of 0s. 8d.	21s.
6	⅝ of 13s. 4d.	0s. 8d.
7	$\frac{7}{10}$ of 0s. 8d.	13s. 4d.
8	1⅛ of 21s.	1s. 6d.
9	$\frac{7}{10}$ of a far.	27s.
10	$\frac{5}{10}$ of 5s.	10s. 6d.
H 1	1½ of 2s. 6d.	a groat
2	⅞ of 10s. 6d.	10s.
3	$\frac{5}{10}$ of a £	13s. 4d.
4	$\frac{9}{10}$ of 4d.	21s.
5	$\frac{9}{10}$ of 1d.	27s.
6	1⅛ of 27s.	21s.
7	⅞ of 27s.	a far.
8	1⅛ of 5s.	10s. 6d.
9	$\frac{7}{10}$ of a £	5s.
10	1⅛ of 21s.	27s.
I 1	⅜ of a yd.	a mile
2	⅞ of a mile	a yard.
3	⅛ of a pole	a lea.
4	$\frac{5}{10}$ of a fur.	a foot
5	$\frac{7}{10}$ of an inch	a pole
6	⅜ of a yd.	an Eng. ell
7	$\frac{5}{10}$ of 5qrs.	a Fr. ell
8	⅜ of a Fl. ell	a yard.
9	1½ of an acre	a sq. yd.
10	1⅛ of a sq. in.	a sq. yd.

	Express	in terms of
J 1	$\frac{1}{8}\frac{3}{6}$ of a cu. yd.	a cu. in.
2	$\frac{7}{1\,9}$ of a cu. in.	a cu. yd.
3	$\frac{7}{1\,1\,2}$ of a ton	a lb.
4	$\frac{1}{1}\frac{1}{2}$ of a lb.	a cwt.
5	$\frac{1}{1}\frac{3}{6}$ of a lb.	a dr.
6	$\frac{7}{8}$ of an oz.	a cwt.
7	$\frac{1}{1}\frac{3}{6}$ of a lb.	a dwt.
8	$\frac{9}{1\,7\,5}$ of a gr. (troy)	an oz.
9	$\frac{7}{3\,5}$ of a pack	a lb.
10	$\frac{7}{8}$ of a lb.	a tod
K 1	$\frac{9}{3\,5}$ of a lb. (apoth.)	a gr.
2	$\frac{8}{2\,1}$ of a sc.	an oz.
3	$\frac{1}{2}\frac{0}{4}$ of a hhd. (wine)	a gal.
4	$\frac{3}{8}$ of a pint	a tier.
5	$\frac{1\,1}{3\,1\,5}$ of a tun	a gal.
6	$\frac{1}{1}\frac{1}{2}$ of a bar. (ale)	a gal.
7	$\frac{8}{2\,1}$ of a gal.	a hhd.
8	$\frac{1}{1}\frac{3}{6}$ of a pint	a firkin
9	$\frac{7}{8}$ of a peck	a qr.
10	$\frac{3}{4}$ of a gal.	a bush.
L 1	$\frac{1}{1}\frac{1}{2}$ of a qr.	a peck
2	$\frac{7}{3\,5}$ of a pint	a gal.
3	$\frac{1}{1}\frac{3}{6}$ af a coom	a pint
4	$\frac{4}{5}$ of a chal.	a peck
5	$\frac{1}{1}\frac{1}{2}$ of a peck	a sack
6	$\frac{7}{8}$ of a ream	a quire
7	$\frac{9}{3\,5}$ of a quire	a ream
8	$\frac{1}{3}\frac{3}{6}$ of 365 days	a day
9	$\frac{8}{6\,0}$ of a sec.	an hour
10	$\frac{1\,1}{3\,6\,5}$ of a day	a sec.
M 1	$\frac{4}{5}$ of a £	7½d.
2	$\frac{1}{1}\frac{1}{2}$ of 21s.	3s. 8d.
3	$\frac{8}{2\,1}$ of 3s. 4d.	5s. 5d.
4	$\frac{7}{8}$ of 8s. 6d.	10½d.
5	$\frac{4}{8}\frac{3}{3}$ of 2¾d.	10s. 6d.
6	$\frac{4\,8}{1\,4\,4}$ of 7s. 6d.	14s. 6d.
7	$\frac{9}{3\,5}$ of 3½d.	7s. 6d.
8	$\frac{4}{5}$ of 10s. 6d.	13s. 4d.
9	$\frac{1}{1}\frac{1}{2}$ of 4¼d.	9s. 7½d.
10	$\frac{1}{1}\frac{1}{2}$ of 8d.	15s. 2½d.

	Express	in terms of
N 1	$2\frac{1}{4}$ of 1s. 6d.	2s. 6d.
2	$3\frac{7}{8}$ of 0d.	21s.
3	$2\frac{1}{2}$ of £1 3s. 4d.	a £
4	$3\frac{1}{3}$ of 15s.	10s. 6d.
5	$\frac{3}{4}$ of $2\frac{1}{2}$ of 5s.	13s. 4d.
6	$1\frac{2}{3}$ of $\frac{4}{5}$ of a £	21s.
7	$5\frac{6}{7}$ of $\frac{9}{1\,0}$ of £5	£3¾
8	$1\frac{1}{7}$ of 10s. 6d.	13s. 6d.
9	$1\frac{3}{8}$ of 5s. 6½d.	15s. 10½d.
10	$3\frac{3}{4}$ of £6	£3 7s. 8½d.
O 1	$\frac{3}{4}$ of $\frac{4}{5}$ of a lb.	12dwts.
2	$\frac{4}{5}$ of a lb. troy	a lb. av.
3	$7\frac{2}{5}$ cwts.	a ton
4	$3\frac{1}{2}$ of 5 cwt.	$\frac{1}{2}$ a ton
5	$3\frac{3}{4}$ of $1\frac{2}{4}$cwt.	$4\frac{1}{2}$cwt.
6	$2\frac{1}{4}$ of $3\frac{1}{2}$lbs.	a cwt.
7	$7\frac{7}{8}$ of 4 tons	$31\frac{1}{2}$cwt.
8	$3\frac{3}{4}$ of 5 miles	145yds.
9	$\frac{4}{5}$ of $\frac{3}{4}$ of a pole	a fath.
10	$\frac{9}{1\,0}$ of $\frac{7}{1\,0}$ of 50yds.	5miles
P 1	$\frac{9}{1\,0}$ of 3 miles	$5\frac{7}{8}$fur.
2	$3\frac{2}{3}$ of $\frac{3}{5}$ of 3 lea.	$7\frac{1}{2}\frac{1}{2}$ m.
3	$\frac{7}{8}$ of $\frac{4}{5}$ of 4fur.	4 miles
4	$2\frac{3}{4}$ of $\frac{8}{6}$ of 124 yds.	3 lea.
5	$\frac{1}{4}$ of $3\frac{1}{2}$ ac.	2r. 20½p.
6	$\frac{7}{8}$ of $\frac{3}{1\,0}$ of 2 ac.	385 yds.
7	$4\frac{4}{5}$ of 72yds.	1a. 3r. 8p.
8	$7\frac{2}{1\,0}$ of 1354yds.	an acre
9	$\frac{7}{8}$ of $3\frac{3}{4}$ sq. yds.	72 in.
10	$5\frac{1}{2}$ of $1\frac{1}{2}$ sq. ft.	4 poles
Q 1	$9\frac{4}{1\,0}$ of $\frac{1}{2}\frac{1}{2}$qrs.	$3\frac{1}{2}$ pks.
2	$\frac{3}{4}$ of $3\frac{3}{5}$ pks.	3bu. 3pks.
3	$4\frac{1}{1\,0}$ of 4yds.	3E.e. 3qrs.
4	$\frac{4}{5}$ of 3 E.ells.	2qrs. 5yds.
5	$1\frac{1}{2}$of 3yds.	3qr. 3n.
6	$25\frac{7}{8}$hhds. (wine)	46gal.
7	$3\frac{3}{7}$ of $\frac{3}{8}$ bar.	21 gal.
8	$\frac{3}{4}$ of $5\frac{5}{6}$ hrs.	$365\frac{1}{4}$ days.
9	$3\frac{9}{1\,0}$ of $\frac{4}{5}$ wks.	2d. 13hrs.
10	$7\frac{3}{4}$ of $365\frac{1}{4}$d.	3m. 3wks.

CASE XIV.

Express in positive terms the result of,

A 1 $\frac{5}{6}$ of a shilling + $\frac{3}{4}$ of a penny
2 $\frac{3}{4}$ of a sovereign + $\frac{9}{20}$ of a shilling
3 $\frac{7}{8}$ of a guinea + $\frac{5}{6}$ of a shilling
4 $\frac{4}{5}$ of a moidore + $\frac{1}{2}$ of a half crown
5 $\frac{9}{20}$ of a noble + $\frac{4}{5}$ of a crown
6 $\frac{5}{6}$ of 13s. 4d. + $\frac{7}{12}$ of half a guinea
7 $\frac{3}{20}$ of a sovereign + $\frac{5}{6}$ of a groat
8 $\frac{1}{12}$ of a guinea + $\frac{5}{6}$ of a noble
9 $\frac{7}{8}$ of half a guinea + $\frac{3}{4}$ of a crown
10 $\frac{1}{12}$ of a moidore + $\frac{9}{20}$ of 13s. 4d.

B 1 $\frac{5}{6}$ of a sovereign + $\frac{8}{21}$ of a shilling + $\frac{1}{2}$ of a groat
2 $\frac{7}{8}$ of a guinea + $\frac{1}{12}$ of a sovereign + $\frac{3}{4}$ of a crown
3 $\frac{1}{12}$ of a moidore + $\frac{9}{20}$ of a guinea + $\frac{7}{8}$ of a sovereign
4 $\frac{1}{12}$ of a sovereign + $\frac{7}{8}$ of 6s. 8d. + $\frac{4}{5}$ of 5s.
5 $\frac{7}{8}$ of half a guinea + $\frac{5}{6}$ of a shilling + $\frac{3}{4}$ of 6d.
6 $\frac{3}{4}$ of a mile + $\frac{3}{4}$ of a yard + $\frac{1}{2}$ of a foot
7 $\frac{7}{8}$ of a furlong + $\frac{5}{6}$ of a pole + $\frac{1}{2}$ of a yard
8 $\frac{3}{4}$ of an English ell + $\frac{3}{4}$ of a yard + $\frac{3}{4}$ of a qr.
9 $\frac{1}{2}$ of a French ell + $\frac{3}{4}$ of a yard + $\frac{3}{4}$ of a qr.
10 $\frac{3}{4}$ of an acre + $\frac{3}{4}$ of a rood + $\frac{4}{21}$ of a perch

C 1 $\frac{1}{12}\frac{3}{4}$ of a cubic yard + $\frac{7}{8}$ of a a cubic foot
2 $\frac{5}{6}$ of a ton + $\frac{7}{8}$ of a cwt. + $\frac{4}{5}$ of a pound
3 $\frac{8}{21}$ of a cwt. + $\frac{9}{20}$ of a qr. + $\frac{7}{11}$ of an ounce
4 $\frac{7}{8}$ of a pound + $\frac{3}{4}$ of an ounce + $\frac{1}{12}$ of a pennyweight
5 $\frac{5}{6}$ of an ounce + $\frac{7}{8}$ of a pennyweight + $\frac{3}{4}$ of a grain
6 $\frac{7}{13}$ of tod + $\frac{1}{12}$ of a stone
7 $\frac{8}{21}$ of a pound + $\frac{5}{6}$ of an ounce + $\frac{7}{8}$ of a scruple
8 $\frac{3}{4}$ of an ounce + $\frac{1}{12}$ of a dram + $\frac{5}{6}$ of a grain
9 $\frac{5}{6}$ of a tun + $\frac{3}{4}$ of 63 gallons + $\frac{3}{4}$ of a gallon
10 $\frac{8}{15}$ of a hogshead + $\frac{1}{12}$ of a gallon + $\frac{3}{4}$ of a quart

D 1 $\frac{9}{20}$ of 54 gals. + $\frac{3}{4}$ of a gal. + $\frac{1}{2}$ of a qt.
2 $\frac{7}{8}$ of a bar. + $\frac{3}{4}$ of a gal. + $\frac{3}{4}$ of a qt.
3 $\frac{1}{12}$ of a qr. + $\frac{7}{8}$ of a bush. + $\frac{1}{2}$ of a peck
4 $\frac{3}{4}$ of a chal, + $\frac{5}{6}$ of a bush. + $\frac{3}{4}$ of a peck
5 $\frac{7}{8}$ of a month + $\frac{3}{4}$ of a week + $\frac{5}{6}$ of a day
6 $\frac{3}{4}$ of a year + $\frac{7}{8}$ of a month + $\frac{1}{12}$ of an hour

7 16 tons 10 cwt. $1\frac{3}{4}$ qr. $\div$ $9\frac{1}{4}$

8 15 m. 7 fur. $28\frac{1}{2}$ p. $\div$ $11\frac{1}{4}$

9 $3\frac{1}{2}$ qrs. 3 bush. $2\frac{1}{2}$ pks. $\div$ $13\frac{7}{8}$

10 25 yrs. 3 mths. $2\frac{1}{2}$ wks. $\div$ $19\frac{1}{4}$

MISCELLANEOUS EXAMPLES.

A 1 Which is greater, $\frac{7}{11}$ of $\frac{3}{5}$, or $\frac{5}{11}$ of $\frac{4}{5}$, and by how much?

2 What number multiplied by $\frac{4}{5}$ will produce $9\frac{1}{2}$?

3 Find the content of a vessel, $6\frac{3}{4}$ yards long, $5\frac{1}{2}$ feet broad, and 8 inches deep.

4 Multiply the sum of $\frac{3}{5}$, $\frac{2}{3}$ of $\frac{1}{4}$, and 4, by $7\frac{1}{14}$.

5 Express $3\frac{1}{2}$ cwt. as a fraction of a ton.

6 Divide the sum of $\frac{1}{2}$ of £5 7s. 6d., and $\frac{3}{5}$ of £3, by $11\frac{1}{2}$.

7 After paying $\frac{1}{4}$ of £5 out of £10, how much remains?

8 What number multiplied by $\frac{2}{3}$ of $\frac{1}{2\frac{1}{2}}$ is equal to $11\frac{1}{2}$?

9 A person holding $\frac{3}{4}$ of an estate, sold $\frac{2}{3}$ of his share; what had he left?

10 If $\frac{7}{11}$ be worth £3000, give the value of the whole.

B 1 What is the difference between $\frac{2}{3}$ of $\frac{3}{4}$ of a guinea and $\frac{1}{2}$ of $\frac{3}{5}$ of a pound?

2 Divide the product of $17\frac{5}{12}$ and $13\frac{1}{6}$ by $19\frac{1}{2}$.

3 Add together the sum, difference, and product, of $\frac{3}{4}$ and $1\frac{1}{4}$.

4 Express the result of $\frac{3}{4}$ of a moidore + $\frac{2}{3}$ of a guinea + $\frac{1}{4}$ of a pound — $\frac{1}{2}$ of a crown.

5 How many persons may receive each $3\frac{1}{2}$s, out of £$13\frac{1}{2}$?

6 $\frac{1}{2} + \frac{1}{4} + \frac{1}{12}$ of a number is 36, what is the number?

7 Divide $21 - \frac{\frac{1}{3}}{\frac{2}{5}}$ miles by $3\frac{3}{5}$.

8 Sold $\frac{3}{4}$ of $\frac{2}{3}$ of $\frac{5}{6}$ of 50 gallons of wine for $\frac{5}{11}$ of $\frac{3}{5}$ of $1\frac{1}{4}$ of £75, find the price per gallon.

9 Sold $\frac{3}{5}$ of $\frac{5}{8} + \frac{1}{3}$ of $\frac{2}{3}$ of a mine, how much is left?

10 Reduce $\frac{3}{4} + \frac{2}{3} - \frac{5}{6} + 1\frac{1}{2} - 1\frac{1}{3}$ to its simplest form.

C 1 Simplify $\frac{4\frac{1}{2}}{1\frac{3}{4}}$ of $\frac{5}{11} + \frac{\frac{3}{4}}{8} - \frac{3\frac{1}{4}}{2\frac{1}{2}}$.

2 If I have $\frac{3}{5}$ of $\frac{7}{8}$ of $\frac{2}{11}$ of £100, what is its value?

3 How many sums of $7\frac{3}{4}$ guineas each are in 156 moidores?

4 Find the fraction of a guinea equal to $\frac{3}{5}$ of a moidore.

5 What fraction of 4 tons is equivalent to $\frac{7}{8}$ of $2\frac{1}{4}$ cwt.?

6 Find the result of $\frac{3}{4}$ of a mile + $\frac{2}{3}$ of a fur. — $\frac{5}{7}$ of a pole.

7 In $27\frac{1}{2}\frac{1}{4}$ lbs. of cheese, how many slices, each $6\frac{1}{4}$ oz.

8 Simplify $\frac{7\frac{1}{2}}{6\frac{3}{4}} + \frac{11\frac{1}{2} - 2\frac{3}{4}}{11\frac{1}{2} + 2\frac{3}{4}} \times 10\frac{5}{7}\frac{5}{8} - 7\frac{1}{4}$.

9 Compare $\frac{1}{2}\frac{3}{5}$, $\frac{7}{7}\frac{5}{8}$, $\frac{1}{4}\frac{9}{1}$, and find their sum.

10 Simplify $\frac{7\frac{5}{7}}{8\frac{7}{8}}$ of $\frac{5\frac{1}{8}}{81\frac{5}{7}}$ of $\frac{4\frac{1}{7}}{1\frac{1}{3}\frac{3}{2}}$ of $\frac{2\frac{1}{3}\frac{3}{2}}{\frac{1}{1}\frac{3}{4}}$.

D 1 Compare $\frac{1}{2}\frac{3}{5}$, $\frac{1}{3}\frac{5}{6}$, and $\frac{3}{4}\frac{3}{5}$.

2 Divide $\frac{2\frac{7}{8}}{3\frac{1}{4}}$ by $\frac{1\frac{1}{2}}{3\frac{1}{4}}$.

3 A horse and gig are worth £50; of which the gig is worth $\frac{2}{3}$ of $\frac{5}{7}$; find the value of the horse.

4 Express $\frac{1}{2}$ of a guinea — $\frac{3}{5}$ of £1 as a fraction of 10s. 6d.

5 Find the quotient of £27 17s. $10\frac{1}{2}$d. by $11\frac{2}{3}$.

6 Find the product of £7 10s. $9\frac{1}{2}$d. by $20\frac{1}{4}\frac{1}{2}$.

7 Express in terms of a shilling, $2\frac{1}{2}$ of a £. — $\frac{1}{2}$ of a crown — $\frac{3}{8}$ of a £. + $\frac{1}{4}$ of a guinea.

8 Divide the sum of $3\frac{1}{2}$ + $\frac{3}{4}$ of $\frac{1}{2}$ + $2\frac{1}{4}$ of $\frac{1}{3}\frac{1}{2}$ by $3\frac{3}{8}$.

9 Reduce 2 qrs. 3 bus. 2 pks. to the fraction of a load.

10 Reduce $3\frac{3}{8}$ of 2r. 16 per. to the fraction of $3\frac{1}{4}$ acres.

E 1 Reduce to a simple fraction $\frac{2\frac{1}{2}}{3\frac{1}{5}\frac{1}{2}}$ of $\frac{2\frac{1}{8}}{2}$.

2 From £7 11s. $8\frac{1}{2}$d. take £4 16s. $10\frac{5}{8}$d.

3 Add £13 $16\frac{3}{5}$s., £3 8s. $2\frac{1}{4}$d., and £5 9s. $6\frac{1}{2}\frac{1}{4}$d. together.

4 Express in positive terms $\frac{5}{7}$ of 365$\frac{1}{4}$ days.

5 Express $\frac{3}{5}$ of a yard as a fraction of an Eng. ell.

6 Compare £$\frac{3}{7}$, $\frac{3}{5}$ of a guinea, and $\frac{2}{3}$ of 11s. $10\frac{1}{2}$d.

7 Express £2 17s. $6\frac{3}{4}$d. $\frac{7}{7}$ as a fraction of £1.

8 What fraction of a ton are 12 cwt. 2 qrs. 16 lbs?

9 Simplify $11\frac{1}{3} + 3\frac{7}{8} + \frac{3}{5}$ of $\frac{3}{8} - 7\frac{5}{1}\frac{5}{2} + 2\frac{3}{7}\frac{5}{0}$.

10 Reduce $\frac{5}{7}\frac{5}{8}$ of a hhd. of wine to the fraction of a quart.

F 1 Divide $(\frac{3}{4} + \frac{5}{8} + \frac{7}{8} + 1\frac{1}{2})$ by $(\frac{3}{4} - \frac{1}{8})$

2 Express the difference of $\frac{7}{7}\frac{7}{8}$ of a £ and $\frac{3}{4}$ of 15s. as a fraction of half a guinea.

3 A person owes each of 5 creditors £1; he pays A $\frac{1}{4}$ of his debt, B $\frac{2}{5}$, C $\frac{3}{4}$, D $\frac{4}{5}$, and E $\frac{5}{6}$; what does he still owe?

4 How often is £$\frac{7}{8}$ contained in 10 guineas ?

5 What is the value in pounds of $\frac{1}{2}$ of $\frac{3}{4}$ of $\frac{2}{3}$ of $\frac{5}{6}$ of 50gui.?

6 Reduce $\frac{3}{4}$ of $\frac{5}{6}$ of $\frac{3}{8}$ of a yard to the fraction of an Eng. ell.

7 How many yards are in $3\frac{1}{4}$ pieces, each $25\frac{7}{8}$ yards ?

8 Find the difference between $\frac{1}{4}$ of £8 11s. 7$\frac{1}{2}$d. and $\frac{2}{3}$ of $6\frac{1}{2}$ guineas.

9 How many bricks $11\frac{3}{4}$ in. long and $9\frac{1}{2}$ in. broad will pave a floor $50\frac{3}{4}$ feet long by $22\frac{1}{2}$ feet broad?

10 Add $\frac{1}{2}$ of 10 inches, $\frac{3}{4}$ of $\frac{5}{8}$ of a yd. and $3\frac{9}{10}$ of a mile.

G 1 Take $\frac{3}{5}$ of $2\frac{3}{4}$ cwts. from $\frac{5}{8}$ of a ton.

2 What part of an acre are 960 square yards ?

3 Divide £12 10s. 6$\frac{1}{2}$d. by $\frac{5}{8}$ of $10\frac{3}{4}$ guineas.

4 How many solid feet in a block $4\frac{3}{4}$ feet long, $3\frac{5}{7}$ feet broad, and $8\frac{1}{2}$ inches thick ?

5 From 3 tons $13\frac{9}{10}$ cwt. take 2 tons $19\frac{7}{12}$ cwt.

6 A person is entitled to $\frac{9}{10}$ of £300, find the value of his share.

7 Required the fraction of £5 equivalent to $\frac{5}{8}$ of a guinea.

8 Simplify $\frac{1}{2}\frac{9}{7}\frac{8}{8}\frac{2}{5} \div \frac{3}{4}\frac{1}{7}\frac{6}{8}\frac{2}{5} \times \frac{3}{4}\frac{7}{7}\frac{8}{8} \div \frac{4}{8}\frac{3}{8}\frac{1}{5}\frac{2}{6}$.

9 Compare the product and quotient of $\frac{1}{4}\frac{1}{2}$ by $\frac{3}{5}$.

10 Simplify the expression $2\frac{1}{4} + \frac{7}{8}$ of $\frac{4}{7}\frac{9}{7} + \frac{3\frac{1}{5}}{1\frac{7}{8}\frac{3}{3}}$.

H 1 What number divided by $\frac{4}{5}$ of $\frac{9}{15}$ of $2\frac{1}{4}$ of $\frac{3}{4}$ is equal to 1?

2 If I gain £16$\frac{3}{4}$ per £100, how much is that in the pound ?

3 What sum of money do $\frac{4}{5}$ of $\frac{9}{17}$ of $\frac{7}{8}$ of 250 guineas amount to?

4 What number divided by $22\frac{3}{5}$ will give $17\frac{1}{2}$?

5 What fraction added to $\frac{7}{8}$ of $2\frac{1}{2}$ of $\frac{1}{2}\frac{9}{1}$ will amount to unity?

6 Divide $\frac{3}{4}$ of 13s. 6d. by $\frac{9}{10}$.

7 Sold $\frac{5}{6}$ of $\frac{9}{10}$ of $\frac{3}{5} + \frac{3}{8}$ of $\frac{5}{8}$ of a cask of wine, how much remained ?

8 Express 6 d. 13 hrs. 25 m. as a fraction of $265\frac{1}{4}$ days.

9 Express $\frac{7}{8}$ of $\frac{1}{4}\frac{9}{1}$ of a moidore as a fraction of 13s. 7$\frac{1}{2}$d.

10 Express in positive terms $\frac{7}{8}$ of $\frac{1}{2}\frac{1}{1}$ of $\frac{3}{5}\frac{3}{4}$ of a mile.

I 1 A person invests £1000 in purchasing $\frac{1}{2}\frac{1}{1}$ of $7\frac{7}{8}$ shares in a company, what is each share worth ?

2 Out of $\frac{3}{4}$ of $\frac{5}{6}$ of $\frac{5}{8}$ of £100, I have paid $\frac{2}{3}$ of $\frac{3}{4}$ of $\frac{7}{8}$ of £50; how much remains ?

3 Simplify $\frac{2\frac{3}{4}}{6\frac{1}{7}}$ of $\frac{3\frac{5}{8}}{8\frac{1}{2}} \div 3\frac{9}{10}$.

4 Express in positive terms $\frac{2}{3}$ of $\frac{5}{8}$ of $\frac{3}{4}$ of a ton.

5 Express $\frac{5}{71}$ of 2s. 6d. as a fraction of 10s. 6d.

6 Simplify $\frac{6\frac{3}{4} - 3\frac{1}{2}}{6\frac{1}{2} + 3\frac{3}{4}}$ of $\frac{8\frac{3}{4} - 4\frac{1}{4}\frac{1}{2}}{3\frac{7}{12}}$ of $\frac{3\frac{1}{4} + 2\frac{1}{2}}{9\frac{3}{4} - 3\frac{1}{4}}$.

7 Simplify $8 \times \frac{2\frac{3}{4}}{7\frac{1}{3}} \times \frac{6\frac{1}{2}}{1\frac{1}{4}}$.

8 Find the product of $2 \times \frac{1\frac{7}{8}}{11\frac{1}{4}} \div 7 \times \frac{8\frac{1}{2}}{17\frac{1}{4}}$.

9 Find the quotient of $8\frac{1}{4}\frac{1}{2}$ miles $\div \frac{3\frac{1}{2} \text{ of } 6\frac{1}{4}}{7\frac{3}{4} \text{ of } 5\frac{2}{3}}$.

10 Compare $\frac{7}{8}$ of a £., $\frac{4}{5}$ of a guinea, and $\frac{3}{4}$ of 15s. 7½d.

J 1 Find the fraction which, multiplied by $\frac{3}{4}$ of $\frac{5}{8}$ of $5\frac{1}{2}$, is equal to $\frac{5}{77}$.

2 If $5\frac{1}{16}$ guineas are coined out of $\frac{1}{4}$ a cubic inch of metal, including $\frac{1}{20}$ alloy; how much alloy is in each guinea?

3 How much pure gold must be added to $18\frac{1}{2}$ oz. of metal at $\frac{11}{12}$ fineness, to raise the whole to $\frac{23}{24}$?

4 A man left £2000 among four persons; to A $\frac{2}{5}$, to B $\frac{3}{4}$ of A's share, to C $\frac{1}{2}$ of B's, and to D the rest; required the share of each.

5 A person out of £6 8s. gives $\frac{3}{16}$ to A, $\frac{1}{4}$ the remainder to B and $\frac{1}{3}$ the second remainder to C, what is left?

5 What fraction having 12 for its denominator is equivalent to $\frac{3\frac{1}{2}}{5}$?

7 What fraction of £20, together with £3 10s. 7½d. is equal to 15 guineas?

8 Required the simple fraction expressing the difference of $\frac{1}{2}$ of $3\frac{1}{3}$ and $\frac{1}{4}$ of $5\frac{1}{4}$.

9 Add together $\frac{3}{4}$ of £12, $6\frac{1}{2}$ of $\frac{1}{3\frac{1}{7}}$ of $\frac{1}{8}$ of 2s. 11d., and $\frac{1}{2}$ of 1s. 8d., and express the result as a fraction of £6 13s. 4d.

10 A ship is worth £3500, and the cargo six times as much as the ship; express in money the value of $\frac{1}{4}$ of $\frac{2}{7}$ of both.

DECIMAL FRACTIONS.

No. 15.

CASE I.

Express as Decimal Fractions,

A 1	B 1	C 1	D 1	E 1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

CASE II.

Express as Vulgar Fractions,

A 1	·25	B 1	·35	C 1	·405	D 1	·7072	E 1	4·5888
2	·5	2	·05	2	·395	2	3·055	2	·009375
3	·75	3	·08	3	·0225	3	·06608	3	·74775
4	·125	4	·006	4	·008	4	·30175	4	9·003125
5	·525	5	·005	5	·725	5	2·045	5	·012288
6	·27	6	·015	6	·848	6	·234375	6	·078125
7	·35	7	·815	7	·624	7	·343375	7	·49152
8	·8	8	·075	8	·718	8	7·072	8	8·065625
9	·305	9	·084	9	·088	9	1·0016	9	·328125
10	·45	10	·003	10	·065	10	·12125	10	3·0000625

CASE III.

Express as Decimal Fractions,

A 1	B 1	C 1	D 1	E 1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

A 6	B 6	C 6	D 6	E 6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

CASE IV.

Express as Vulgar Fractions,

A 1	B 1	C 1	D 1
·6	·3275	6·108729	2·18
2 .03	2 ·04351	2 4·072576	2 ·2142857
3 ·57	3 ·047693	3 5·241866	3 ·67857142
4 .441	4 5·137781	4 4·714285	4 7·013
5 ·594	5 7·16287	5 5·018	5 3·012
6 ·363	6 ·12837	6 10·00380952	6 2·0345
7 ·876	7 ·00075	7 3·00505	7 37·00864
8 ·489	8 ·4429	8 5·00078	8 6·3555
9 ·753	9 ·25515	9 6·04155	9 8·4095238
10 ·639	10 ·2216	10 9·37024	10 19·1285714

CASE V.

Express in one sum,

A 1 8·475+·2186+·45+23·72+316+2·843+.084
2 ·765 + 3·418 + 96 + ·004 + 276·01 + 45·00835
3 ·0075 + ·834 + 204·68 + 1·327 + ·0008 + 72·8406
4 25·071 + ·037 + 165 + ·004144 + 4·71 + ·6832 + ·5
5 ·08 + 3·0075 + 68·432 + ·745 + 333 + 6·412 + ·0099
6 328·4 + 375 + 8·7163 + ·008 + 72·505 + ·00074 + 81
7 ·071 + 37·4016 + 2896 + ·3704 + 1·467 + ·7 + 2·48
8 7·101 + 61·703 + ·00827 + 1·76 + ·75 + ·0683 + 9
9 4·3 + 276·108 + ·08 + ·000089 + 45 + 609·481 + 303
10 ·005 + 700·1 + 6·523 + ·00415 + 76·56 + ·25 + ·0085
B 1 246 + .0087 + ·91 + ·643 + 278·416 + ·0015 + .00004

2 ·72 + ·08416 + 55·005 + 6·741 + .0009 + 87·064 + ·085

3 ·0003 + 2.006 + 809 + 7·77 + 30.76 + ·00025 + ·831

4 186·705 + 28·41 + 9·05 + .0068 + ·2741 + 416·875

5 ·00805 + 309 + 6·143 + 7·217 + 303·00851 + ·00043

6 27·458 + ·0004 + ·875 + 165 + ·00143 + 222·0222 + 10

7 ·000312 + 260 + 74·32 + ·00242 + 5 + ·000846

8 732·416 + ·084 + ·000007 + 93 + ·068 + 2708·415

9 63·084 + 7·02005 + 3843 + ·07056 + 28 + ·00202

10 ·78402 + ·006 + 38·107 + ·009 + ·9 + 285 + ·00083

C I 282·416 + ·0005 + ·008 + 21 + ·0008275 + 37·0602

2 ·004 + ·00802 + 202 + 9 + 68·00073 + ·0080308

3 ·702026 + ·0045 + 8063 + ·275·816 + 303 + ·20827

4 ·674 + ·08342 + 2060 + 17·17 + 209·209 + ·8

5 404·13 + 27 + ·00827 + 6·184 + ·7023 + 7023 + 29

6 ·00101 + 101 + ·808 + 808 + ·00631 + 99·9 + ·999

7 ·20202 + 202·02 + ·008134 + ·7 + 23 + ·00008125

8 43·1 + 163·002 + 72·183 + .0084169 + 145·03 + ·8

9 ·0087 + ·099 + ·8 + 4163 + 72·025 + ·0084607 + 232

10 303·303 + 17.17 + ·0606 + ·19 + ·0084 + 916 + .008022

D 1 $27\dot{6} + 301\cdot\dot{1}\dot{6} + 9\cdot\dot{1} + \cdot\dot{0}\dot{8}\dot{3} + 45\cdot29\dot{1}\dot{6}$

2 $\cdot\dot{4}2847\dot{1} + \cdot\dot{3}5714\dot{2}\dot{8} + \cdot\dot{5}2380\dot{9} + \cdot\dot{4}52380\dot{9}$

3 $\cdot0769\dot{2}3 + \cdot1153\dot{8}46 + \cdot09615\dot{3}\dot{8}4 + \cdot0673076\dot{9}\dot{2}$

4 $\cdot\dot{4}2857\dot{1} + 19\cdot\dot{5} + 3\cdot\dot{5}\dot{8}\dot{3} + \cdot\dot{6}42857\dot{1} + \cdot\dot{6}1904761\dot{9}\dot{0}$

5 $7\cdot\dot{5}\dot{8}\dot{3} + \cdot\dot{3}8005\dot{2} + 16\cdot\dot{3}\dot{3} + 11\cdot97\dot{2} + \cdot\dot{7}85714\dot{2}$

6 $\cdot714285 + \cdot\dot{9}285\dot{7}1\dot{4} + 20\cdot0\dot{9}\dot{2}\dot{5} + 5\cdot\dot{4}0\dot{4}7\dot{6}19$

7 $\dot{4}3\cdot\dot{3}\dot{6} + 19\cdot\dot{3}\dot{1}\dot{8} + 108\cdot\dot{8}\dot{7} + \cdot\dot{1}\dot{5}\dot{9}\dot{0} + 117\cdot\dot{3}\dot{7}\dot{8}$

8 $\cdot\dot{3}8461\dot{5} + \cdot1153\dot{8}46 + \cdot\dot{2}05\dot{1}\dot{2}8 + \cdot\dot{2}435\dot{8}\dot{9}\dot{7}$

9 $71\cdot\dot{4} + 6\cdot\dot{7}\dot{2} + 18\cdot\dot{7}\dot{0}\dot{3} + \cdot\dot{4}\dot{7}\dot{2} + \cdot\dot{6}\dot{1}\dot{8}\dot{1} + \cdot\dot{5}\dot{4}\dot{6}\dot{2}\dot{9}$

10 $\cdot\dot{9}2307\dot{6} + \cdot\dot{6}\dot{9}2\dot{3}0\dot{7} + 7\cdot\dot{6}7307\dot{6}\dot{9}\dot{2} + \cdot\dot{9}\dot{9}6\dot{7}9\dot{4}\dot{8}7\dot{1}$

CASE VI.

Express in one sum:

A 1	4·07068 — ·086943	C 1	57·623 — 18·41095
2	147·84 — 63·24108	2	·883746 — ·0084139
3	27·0046 — 19·316204	3	7163·1 — 4281·7036
4	7·1001 — 3·602418	4	25·5 — 8·006584
5	·0416 — ·0084178	5	3071·106 — 2041·1875
6	·4086382 — ·2709	6	·2010684 — ·10783268
7	701·1684 — 503·40902	7	374·4160 — ·83927
8	.806032 — ·0806032	8	15·1004 — ·09846
9	7·40168 — 3.87069	9	·0008743 — ·0004189
10	3·701402 — ·410683	10	3704·25 — 2168·7463
B 1	416·2 — 208·008476	D 1	$\cdot\dot{0}9\dot{4}0\dot{1}7 - \cdot\dot{0}8\dot{2}6\dot{2}\dot{1}$
2	53·0081 — 29.00081	2	$\cdot\dot{7}1\dot{4}2\dot{8}\dot{5} - \cdot\dot{6}\dot{4}2\dot{8}5\dot{7}\dot{1}$
3	·070684 — ·00041683	3	$\cdot 0\dot{6}1\dot{7}2\dot{8}3\dot{9}\dot{5} - \cdot\dot{0}1\dot{2}\dot{3}\dot{4}5\dot{6}\dot{7}\dot{9}$
4	705 — ·7084003	4	$180\cdot\dot{3}7\dot{5}\dot{1}\dot{2} - 99\cdot\dot{4}\dot{2}\dot{6}\dot{7}$
5	18469 — 37·4008	5	$15\cdot\dot{7}6\dot{9}2\dot{3}\dot{0} - \cdot\dot{9}\dot{6}1\dot{5}3\dot{8}\dot{4}$
6	26·1087 — 14·4183	6	$19\cdot\dot{0}4\dot{8}7\dot{1}\dot{7} - 7\cdot\dot{0}1\dot{7}0\dot{9}\dot{4}$
7	209·376 — 201·8416	7	$11\cdot0\dot{3}\dot{6} - 3\cdot\dot{9}\dot{8}\dot{7}\dot{5}$
8	·000418 — ·00003624	8	$24\cdot\dot{4}0\dot{7} - 5\cdot\dot{0}\dot{8}0\dot{7}6\dot{9}2\dot{3}$
9	4·107 — 3·1072685	9	$\cdot 5\dot{7}6\dot{9}2\dot{3}0\dot{7} - \cdot 3\dot{9}2\dot{8}5\dot{7}1\dot{4}$
10	41003 — 376·8429	10	$\cdot 9\dot{7}4\dot{3}5\dot{8} - \cdot 0\dot{4}2\dot{8}5\dot{7}\dot{1}$

CASE VII.

Find the result of

A 1	23·7016 × 4·8372	6	208·64 × ·0046
2	·074109 × 23·3084	7	562·73 × ·00008
3	19·306 × 213·75	8	4·0816 × 17·465
4	·00846 × ·00324	9	21·0735 × ·04683
5	·70365 × 4·387	10	·004618 × 7·85

B 1	6·4387 × 67·08	D 1	·009 × 7·06 × ·00846
2	·08946 × 81·34	2	7,083 × ·0096 × 2·875
3	·70825 × 9·416	3	·071 × ·071 × ·071
4	280·168 × 7·645	4	4·86 × ·091 × 8·734
5	19·835 × ·0084	5	298 × .048 × 31·07
6	·000076 × ·0084	6	·0095 × 7·06 × ·0081
7	·008207 × 7·056	7	76·8 × 13·04 × ·0987
8	760·3 × ·00984	8	·2754 × 2754 × ·008
9	·0986 × 35·4186	9	·00367 × ·00948 × 29
10	28·709 × 46·838	10	7·643 × ·0042 × ·876
C 1	·07416 × 84·709	E 1	·83 × ·380952 × ·583
2	4·0184 × 91·067	2	·538461 × ·619047 × ·27
3	800·416 × ·0087	3	·9285714 × ·307692
4	·2463 × ·060805	4	·3095238 × ·186813 × ·63
5	·00079 × ·0000483	5	·81 × ·407 × ·153846
6	·001019 × ·08074	6	37·3 × ·916 × 5·571428
7	7·0624 × 164·108	7	22·36 × 6·70731 × ·025641
8	·098463 × 7·284	8	·571428 × ·45 × ·583
9	·750604 × ·089	9	·538461 × ·7428571
10	46·028 × ·00978	10	8·047619 × 3·230769

CASE VIII.

Find the result of,

A 1	37·1643 ÷ 3·57	B 1	4168·724 ÷ 384·69
2	·0764183 ÷ 45	2	24196 ÷ 8·438
3	27684·1603 ÷ ·0083	3	·001846 ÷ 7·218
4	12·7416 ÷ 3768	4	41063·2884 ÷ ·00876
5	410·176 ÷ ·00824	5	·0160828 ÷ ·00248
6	716·343069 ÷ 27·69	6	33 ÷ ·00768469
7	7·68342 ÷ ·04183	7	1 1 701 416 8397
8	·0333 ÷ ·00168	8	·04683 ÷ 4·8016
9	18·43 ÷ ·0768	9	27841 ÷ ·08463
10	18 ÷ ·00846	10	·08417 ÷ 846

C 1 724·109 ÷ 8·374
2 8106 ÷ ·08724
3 3·108462 ÷ 9·743
4 41·22054 ÷ ·00687009
5 ·004187 ÷ ·000632
6 ·7801738 ÷ 23
7 ·0031824 ÷ 73·8
8 ·00106650895 ÷ 16·40783
9 19·201709 ÷ 4106
10 83417 ÷ 1·843

D 1 ·0076842 ÷ 849
2 70843 ÷ ·0896
3 ·274384 ÷ 86·43
4 ·0080706 ÷ ·00821
5 72·1068325 ÷ ·0725
6 ·076384 ÷ 9·186
7 874·268 ÷ 9641·8
8 4444 ÷ ·072266
9 ·3701857458 ÷ 831
10 ·00082176 ÷ ·008457

E 1 105·83 ÷ 35·714285
2 6·461538 ÷ ·059829
3 27·2179487 ÷ ·115346
4 ·018315 ÷ ·004477
5 ·042328 ÷ ·456790123
6 ·09615384 ÷ ·067307692
7 ·355769230 ÷ 3·1153846
8 ·0714285 ÷ 59·428571
9 ·10185 ÷ ·047619
10 29·1296 ÷ ·06481

CASE IX.

Express in positive terms,

A 1 .275 of £1
2 ·58125 of £1
3 ·0725 of a guinea.
4 ·6082 of 13s. 4d.
5 ·0945 of 6s. 8d.
6 ·27558 of 27s.
7 ·6035 of 10s. 6d.
8 ·0295 of 10s.
9 ·00975 of £10
10 ·7135 of £5

B 1 7·30645 of £10
2 2·10552 of £5 5s.
3 ·067385 of 12s. 6d.
4 1·7658 of £1 13s. 4½d.
5 2 55085 of £3 2s. 6d.
6 4·10584 of £5 5s. 6d.
7 5·60723 of 6s. 8d.
8 3·4172 of £3 1s. 6d.
9 2·7684 of 7s. 6½d.
10 5·1085 of £10 10s.

C 1 6·24375 of £8 11s. 3d.
2 ·009074 of £20
3 ·7845 of £15 15s. 4½d.
4 2·0875 of 3½ guineas
5 7·10485 of 5s. 6½d.
6 ·0086358 of £6 6s. 6d.
7 3·124167 of 11 guineas
8 4,37815 of 7 crowns
9 9·41075 of £1 1s.
10 5·167038 of £3 16s. 10½d

D 1 ·074165 of 2s. 8½d.
2 ·0465 of £1 + ·275 of £1
3 2·685 of £5—·9863 of 21s.
4 4.105 of £9 — 4·195 of £5
5 5·1068 of £3+7·106 of 5s.
6 ·35 of 7s.6d.+4·185of 10d.
7 ·6875 of 3s.4d.—·675of8d.
8 2·75 of £15+3·165 of 10s.
9 ·125 of 30s.—·45of11s.6d.
10 9·245 of 5s.6d.+3·75of2s.

E	1	·145 of 3 fur. 24 p. 2yds.	H	1	2·10965 of a quarter
	2	2·1845 of 1 m. 150 yds.		2	4·765 of 3 bushels 3pecks
	3	·057463 of 1760 yds.		3	·1872 of 3qrs. 5bus. 2pks.
	4	1·875 of 1m. 7 fur. 25p.		4	3·4175 of 6 bushels
	5	·0372 of 2m. 3fur. 30p.		5	2·4785 of a ream
	6	·07695 of 10 Eng. ells.		6	·86745 of 365¼ days
	7	5·0694 of 4yds. 3qrs.		7	·7205 of a month
	8	·07865 of an acre		8	4·10685 of a day
	9	·00875 of a sq. yard		9	3·724185 of a week
	10	·00967 of a cu. yard		10	·00784168 of 7 months
F	1	·7485 of 33cwt. 3qrs.	I	1	·285 of a m.+·875of a fur.
	2	4·106 of 3cwt. 1qr. 21lbs.		2	·38 of 3 lea.—·745 of 1 m.
	3	2·218 of 3 stones 10½lbs.		3	·423 of 5R.e.+·275 of 4yd.
	4	2·0675 of 55cwt. 1qr.		4	.975 of 8 Fr.e.—·85of 8yds.
	5	·00874 of. 10 tons		5	·75 of sq.yd.+·56 of a sq.ft.
	6	·37256 of a lb. troy		6	·085 of a ton—·875 of a qr.
	7	2·7058 of 3lbs. 11oz.		7	·55 of 3cwt.+·95 of 2¼ qr.
	8	1·4175 of a pack of wool		8	·75 of a hhd.—·95 of a tier.
	9	·06784 of a lb. apoth.		9	·845 of 4 qrs.+·54 of 3bus.
	10	·78246 of 3lb. 8oz. 7dr.		10	·45 of 365¼da.—5·7of a wk.
G	1	·01687 of a hhd. of wine	J	1	·10714285 of £5
	2	2·4165 of a tierce		2	·5 of £1 11s 4d
	3	·7954 of a tun		3	·13 of £7 17s 7¼d
	4	·2863 of 2hhds. 35gals.		4	·857142 of £7
	5	3·215 of a pipe		5	·72 of £1 3s 4d
	6	·0785 of a barrel of ale		6	·416 of 3fur. 13p. 1yd. 2¼ft.
	7	1·6875 of a firkin		7	·583 of 1cwt. 2qr. 12lbs.
	8	3·1682 of a hhd.		8	·0428571 of 5 tons
	9	·07154 of 26 gallons 3qts.		9	·538461 of 8qrs. 1bush.
	10	·76418 of a bushel		10	·81 of 365¼ days

CASE X.

Reduce			to the dec. frac.	Reduce			to the dec. frac.
A	1	4s 6½d	of a sov.	6		7s 5¼d	of a sov.
	2	3s 8¾d	of a sov.	7		8s 2¾d	of a sov.
	3	5s 6d	of a sov.	8		£1 7s 8d	of a sov.
	4	6s 7½d	of a sov.	9		3s 8½d	of a sov.
94	5	9s 5d	of a sov.	10		17s 6¼d	of a sov.

Reduce		to the dec. frac.
B 1	14s 6¾d	of £4
2	13s 8¾d	of 21s
3	15s 6d	of 27s
4	16s 7½d	of 7s 6d
5	19s 3¾d	of 10s 6d
6	17s 5¼d	of 10s
7	18s 2¾d	of 5s 3d
8	£1 7s 8d	of £2 5s
9	£1 13s 6¾d	of £5
10	£1 17s 9¾d	of £3 2s 6d
C 1	£2 8s 4½d	of 17s 10½d
2	6s 8½d	of a sov.
3	13s 4d	of a guinea
4	£5 8s 6d	of £1 8s
5	£2 17s 3¾d	of £3 5s 6d
6	18s 4½d	of 3 guineas
7	11s 7½d	of 5 crowns
8	£3 6s 8d	of £5 10s
9	19s 2¼d	of a groat
10	£1 16s 6d	of 7s 6d
D 1	7s 8½d	of 2 sovs.
2	6s 4¼d	of £1 10s
3	£3 13s 8d	of 17s 6d
4	£2 10s 5¼d	of 10½d
5	£7 16s 1½d	of £6 12s
6	13s 5¼d	of 10 guineas
7	2s 4¼d	of a crown
8	18s 11½d.	of 7 guineas
9	£10 5s	of £3 7s 6d
10	£4 10s	of 13 guineas
E 1	13s 7½d	of 5 guineas
2	8s 10¼d	of £8
3	3s 7½d	of 9s 6d
4	£6 6s 6d	of £100
5	£2 10s 3¾d	of £7 14s
6	13s 8¼d	of £20
7	17s 11¼d	of 27s
8	£3 3s 4d	of £5 5s

Reduce		to the dec. frac.
9	£1 7s 7d	of 8d
10	£10 0s 6d	of 4s 6d
F 1	3 fur. 35 p.	of a mile
2	2 m. 2fur. 10p.	of 825yds.
3	4fur. 24p.	of 12po.
4	660yds.	of 4 miles
5	2m. 7fur. 20p.	of 3½m.
6	4¾yds.	of an E. ell
7	3 E. ells 2qrs.	of 3 Fr. ells
8	1a. 3r. 20p.	of an acre
9	3630yds.	of 3 acres
10	3ft. 72in.	of a sq. yd.
G 1	16ft. 783in.	of a cu. yd.
2	3cwt. 3¼qrs.	of a ton
3	1qr. 21lbs.	of 28 cwt.
4	3 tons	of 3cwt. 16lbs.
5	2qrs. 16lbs.	of 5 tons
6	2st. 3½lbs.	of 6½lbs.
7	3oz. 16dwts.	of a lb.
8	3⅛lbs. (troy)	of 1⅛lb.
9	35lbs. (wool)	of a pack
10	8lbs. 3½oz. (apoth.)	of 4½oz.
H 1	3hhds. (wine)	of 39gals.
2	12gals. 3qts.	of a tierce
3	2 tuns	of 2hhds. 18gals.
4	3hhds. 7gals.	of 3 tuns
5	2bar. (ale)	of 27½gals.
6	3 firkins.	of a bar.
7	25½gals.	of 3½qts.
8	3¾ bush.	of a qr.
9	5qrs.	of 3½ bush.
10	7qrs. 5bush.	of 5qrs.
I 1	3½ bush.	of 1qr. 4 bush.
2	1coom 3 bush.	of a load
3	2 reams	of 21 sheets
4	30days 10½hrs.	of 365¼da.
5	3 hours	of 7¼ days
6	5 da. 16 hrs.	of 3 wks.

	Reduce	to the dec. frac.		Reduce	to the dec. frac
7	365¼ days	of 8 months	4	15s 1d	of £5 5s 7d
8	3 wks. 3da.	of 10 mths.	5	10s 1d	of £5 10s 11d
9	9 months	of 26 mths.	6	3m. 441yds.	of a mile
10	365¼ days	of 100 days	7	$2\frac{9}{8}$ qrs.	of 14cwt. $2\frac{3}{8}$ qrs.
J 1	16s 7¼d	of 13s 4d	8	9 cwt. 3¾ qrs.	of 2¼ qrs.
2	18s 2¾d	of 6s 8d	9	4w. 0d. 13hrs.	of 2¼ da.
3	£3 13s 8d	of 3s 4d	10	$3\frac{1}{16}$ years	of 3 d. 5hrs.

MISCELLANEOUS EXAMPLES.

A 1 Express as a decimal the result of 3 tenths + 5 hundredths + 11 thousandths + 19 millionths.

2 Express in positive terms ·05625 of a £ and multiply the result by 11.

3 Reduce $\frac{3}{5}$ of $\frac{4}{9}$ of $\frac{10}{11}$ of $\frac{11}{12}$ to a decimal.

4 Reduce 17s. 11¼d. to the decimal of a £.

5 Divide the sum of 17·05 and 1·705 by the difference.

6 Express in positive terms ·0345 of £3 15s. 6d.

7 Divide the sum of 20·0735, 19·06, 20·005, and 7·4175 by 5400.

8 Reduce 7s. 4½d. to the decimal of £3 7s. 2½d.

9 Express in positive terms $\frac{3}{4}$ of $\frac{4}{5}$ of a guinea, and reduce it to the decimal of 3s. 4½d.

10 Find the vulgar fraction equivalent to ·375 + ·125 + ·225 − ·375.

B 1 Reduce $\frac{3}{5}$ of $\frac{7}{8}$ of $\frac{8}{9}$ of $\frac{9}{14}$ of £12 to the decimal of 12 guineas.

2 Multiply the sum of $3\frac{3}{5}$ and $2\frac{1}{16}$ by their difference, and reduce the result to a decimal.

3 Multiply £8 17s. 6d. by 75·25, and reduce the result to the decimal of £100.

4 What decimal multiplied by $\frac{5}{8}$ of $\frac{4}{5}$ of $3\frac{3}{5}$ is equal to 12?

5 Find what decimal of a moidore is equal to $\frac{4}{5}$ of a guinea.

6 Which is the greatest and which the least of 2·5 × ·075, 2·625 ÷ 7, and ·05 × 5?

7 Divide £180 15s. 11¼d. by 25·375.

8 Express in positive terms ·0725 of a guinea + ·2875 of £10 + ·4164 of 10s. 6d. + ·545 of 7 crowns.

9 Reduce 8 oz. 10 dr. to the decimal of 14 lbs. 6 oz.

10 Find the difference between $7\frac{1}{8}$ guineas and £3·275, and reduce the result to the decimal of 5 moidores.

C 1 Reduce $\frac{3\cdot275}{405}$ of $\frac{2\cdot5}{\cdot075} \times \frac{3\cdot125}{11}$ of $\frac{9}{9\cdot375}$ to a simple quantity.

2 Find the difference between 20·037425 miles and 9 m. $437\frac{1}{2}$ yards.

3 What will be the radius of a circle whose circumference is 1760 miles; if the circumference be equal to 3·14159 times the diameter?

4 Find what decimal multiplied by 36 will express the sum of $\frac{1}{8}$, $\frac{7}{16}$, $\frac{11}{32}$, and $4\frac{1}{4}$.

5 Simplify $\frac{3\cdot5 \text{ of } 2\cdot\dot{1}\dot{5}}{1\cdot0\dot{3}\dot{5}} + \frac{3\cdot\dot{5} + 1\cdot\dot{7}\dot{3}}{2\cdot\dot{3}\dot{5} - 1\cdot\dot{5}\dot{2}}$.

6 Express as a decimal $(3\frac{3}{4} + 7\frac{1}{2} - 4\frac{5}{8}) \times (2\frac{1}{4} + 7\frac{3}{8} - 8\frac{1}{16})$.

7 Express in positive terms ·07307692 of $365\frac{1}{4}$ days.

8 The value of 1 oz. of pure gold at the mint is £4 4s. $11\frac{5}{11}$d., required the value of 3·875 lbs.

9 Reduce $3\frac{1}{2}$ guineas to the decimal of $11\frac{1}{8}$ half sovereigns.

10 Find the vulgar fraction equivalent to $\cdot\dot{8}\dot{3} + \cdot\dot{0}\dot{3} + \cdot\dot{7}\dot{3}$.

D 1 Simplify $\left(\frac{3\cdot265}{6\cdot530} - \frac{\cdot06}{\cdot24} + 4\frac{1}{8}\right) \times \left(\frac{2\cdot005}{6\cdot015} + \frac{17\cdot5}{1\cdot75} - 8\cdot045\right)$

2 Multiply the square of $\cdot\dot{2}\dot{7}$ by the square of $\cdot\dot{6}$.

3 Express as a vulgar fraction $4\cdot375 + 13\cdot0875$.

4 Divide the difference between 11·229587 and 3·816243 by 274.

5 What decimal of £1 19s. $4\frac{1}{2}$d. is 10 guineas?

6 Find what fraction 17s. $3\frac{1}{2}$d. is of 2 guineas, and reduce it to a decimal.

7 Express in positive terms ·7405 of a sovereign — ·50675 of a guinea.

8 Reduce 16 cwt. 3 qrs. 8 lbs. 12 oz. to the decimal of a ton.

9 Multiply 3 qrs. 3 bush. 3 pks. by 37·175.

10 Find the vulgar fraction equal to ·3516 + 7·41115 — 4·02525.

E 1 Express ·06 of ·625 of ·53 divided by ·83 of ·5 of ·1714285 as an equivalent vulgar fraction.

2 Express in positive terms 3·6746 of 13s. 6½d.

3 Multiply 76·0857 by ·0048, and divide the product by 117.

4 Reduce £3 7s. 11⅕d. to the decimal of £5.

5 Express in positive terms £1·625 + 2·7435 guineas, + ·5815 of a moidore, and reduce the result to the decimal of 7 guineas.

6 Divide the result of ·1296 × ·6428571 by ·185.

7 Simplify $\frac{2\frac{1}{3}}{1\frac{1}{5}} \times \frac{\cdot127}{1\cdot27} \div \frac{\cdot179487}{\cdot538461} \times \frac{\frac{5}{11}}{\frac{9}{22}}$.

8 Reduce 3 yds. 3 qrs. 3 n. to the decimal of 11 Eng. ells.

9 Reduce $\frac{1}{15}$ of 4 lbs. 0 oz. 15 dwt. to the decimal of 26 lbs. 9 oz. 15 dwts.

10 Divide $\frac{3}{5}$ of ·76435 by $\frac{9}{11}$ of ·3796243.

F 1 Find the vulgar fraction equivalent to the difference of ·282051 and ·076923.

2 Express in positive terms ·06181 of a pack of wool of 240 lbs.

3 Reduce 27 gal. 3 qts. 1 pt. to the decimal of 3 hhds. of wine.

4 Express in positive terms ·1753246 of £3 17s.

5 Express 3 qrs. 14 lbs. as a vulgar fraction of 3 cwt., and reduce it to a decimal.

6 Express $\frac{3}{8} + \frac{3}{5} + \frac{5}{11} + \frac{1}{33}$ as a decimal. Taking the result as a decimal of 13s. 9d., express it in positive terms.

7 Express as a decimal $\frac{9}{20} \times \frac{9}{27} \div \frac{1}{14} \times \frac{5}{11}$.

8 Divide the product of ·63, ·461538, and ·7857142 by ·8161538.

9 Find the vulgar fraction equivalent to ·3809428571 — ·230769.

10 Reduce £3 16s. 10d. to the decimal of 20 guineas.

G 1 Find the price of brandy per gallon if 8 hhds. 52·5 gallons cost £612·15.

2 From ·87045 take ·4930076 and multiply the difference by $\frac{2}{3}$ of $\frac{3}{8}$ of $\frac{4}{15}$.

3 Multiply 7s. 11·375d. by 23·875.

4 Express in positive terms ·28743 of £1 5s. — ·07645 of 3 guineas.

5 A slab measures 7·3125 feet in length and 3·5625 feet in width, what will it cost at 5·0048 sh. per square foot?

6 What decimal of a pound avoirdupois is a pound troy?

7 Reduce 2 m. 3 fur. 31 p. 3 yds. to the decimal of a league.

8 Simplify $\left(\frac{\dot{4}\cdot\dot{6}}{7\frac{5}{8}} \times \frac{10\frac{7}{12}}{\dot{9}\cdot\dot{3}}\right) - \left(\frac{\dot{5}\cdot\dot{5}}{\dot{4}\cdot\dot{1}\dot{6}} \div \frac{2\frac{1}{2}\frac{1}{2}}{3\frac{1}{3}}\right)$.

9 Express in positive terms $3\frac{1}{3}$ of 22·39488 cwt.

10 Find the vulgar fraction equivalent to the sum of ·8, ·9, and ·916.

H 1 Find the difference between £4 11·75s. and 10 guineas, and reduce the result to the decimal of $15\frac{1}{2}$ guineas.

2 How many square feet of material are required to make a box 3·5 feet long, 2·75 feet broad, and 1·25 feet deep; and what will it cost at 7d. per square foot?

3 Distributed £9 0s. 10d. among poor persons, giving to each 5·16sh.; how many were there?

4 Express in positive terms ·075875 of $20\frac{1}{2}$ tons.

5 Divide ·031339 × 3·13 by $\frac{62}{351}$.

6 Required the number of bricks each 9 in. by $4\frac{1}{2}$ in. that would pave an area 15·2083 feet by 10·5 feet.

7 A man in measuring a road makes an average error of 2·0625 feet in excess per mile; how much would that amount to in 120·75 miles?

8 Multiply the quotient of $2\cdot\dot{3}\dot{2}\dot{4}$ and $6\cdot\dot{1}\dot{4}2\dot{8}\dot{5}\dot{7}$ by $\cdot\dot{1}\dot{8}\dot{9}$.

9 Reduce $\cdot8\dot{3} \div \cdot\dot{7}1\dot{4}2\dot{8}\dot{5} \times \cdot\dot{4}\dot{6} \div \cdot\dot{7}$ to a simple quantity.

10 Express the result of $\cdot\dot{9}\dot{3} \div \cdot\dot{3}\dot{5} \times \cdot\dot{0}\dot{0} \div \cdot2\dot{2}\dot{7}$ as an equivalent vulgar fraction.

1 Express in positive terms $\cdot\dot{3}9285\dot{7}1\dot{4}$ of £7.

2 Paid £310·83 for one year's rent of 200 acres of land what would be the rent of 1 acre for a quarter of a year

3 What decimal of £15 is $\frac{5}{12}$ of ·416 of 50 guineas ?

4 Express 7 a. 3 r. 28 p. as a decimal of 40 acres, and divide the result by ·00975 .

5 Express in positive terms ·07638 of a square yard.

6 If I pay yearly £1822 11s. 4·296 d. for wages ; how much is that per week ?

7 Reduce 22 hrs. 35 m. 20 sec. to the decimal of 4 days.

8 Reduce $\frac{3}{4}$ of $\frac{4}{5}$ of $\frac{5}{6}$ of a tun of wine to the decimal of 8hhds.

9 Multiply $5\frac{1}{4}$ by $\frac{7}{12}$ of 8·1875 .

10 Divide 370·6481 by $\frac{7}{11}$ of $\frac{2}{3}$ of ·54629 .

1 J Simplify $\dfrac{\frac{7}{11} \times ·523809}{1·571428 \times 2\frac{5}{12}} \div \dfrac{\frac{5}{16} \times ·27}{\frac{4}{5} \times ·26}$.

2 Find the sum of $7\frac{1}{2}$ moidores and $7\frac{1}{2}$ guineas, and reduce the result to the decimal of £5.

3 Express in positive terms $\frac{4}{7}$ of $\frac{7}{16}$ of $\frac{1}{2}$ of £3·7825 .

4 Find the vulgar fraction equivalent to ·6 + ·9 + ·46 + .55.

5 Multiply the difference between 3·275 French ells and 3·275 Eng. ells by ·388 .

6 Express in positive terms ·1153846 of a pack of wool.

7 Find what decimal multiplied by 137 will give the sum of $\frac{3}{4}$, $\frac{5}{6}$, $1\frac{1}{2}$, and $\frac{5}{16}$.

8 Reduce 2 tons, 12 cwt., 3 qrs., 16lbs. to the decimal of 2 cwt. 3 qrs. 4lbs.

9 Multiply the result of ·6 + ·7 + ·916 + .05 by $\frac{3}{8}$.

10 Multiply ·1590 by ·472, and divide the product by ·27 × ·857142 .

PRACTICE.

No. 16.

		d.			s.	d.			s.	d.
A 1	4106 at	¼	6	3111 at		8¼	H 1	3049 at	1	5½
2	2734 at	½	7	7053 at		8½	2	7168 at	1	5¾
3	4103 at	¾	8	6054 at		8¾	3	3003 at	1	6
4	7216 at	¼	9	2706 at		9	4	5555 at	1	6¼
5	4108 at	½	10	4100 at		9¼	5	2027 at	1	6½
6	7103 at	¾	E 1	4106 at		9½	6	5619 at	1	6¾
7	8011 at	1	2	7302 at		9¾	7	7803 at	1	7
8	1089 at	1¼	3	6174 at		10	8	2416 at	1	7¼
9	2066 at	1½	4	4016 at		10¼	9	8107 at	1	7½
10	3333 at	1¾	5	2803 at		10½	10	7608 at	1	7¾
B 1	4444 at	2	6	7601 at		10¾	I 1	2069 at	1	8
2	3064 at	2¼	7	4168 at		11	2	3741 at	1	8¼
3	7125 at	2½	8	2109 at		11¼	3	4101 at	1	8½
4	9011 at	2¾	9	3716 at		11½	4	6713 at	1	8¾
5	1706 at	3	10	4108 at		11¾	5	7201 at	1	9
6	8888 at	3¼	F 1	3741 at	1	0¼	6	8003 at	1	9¼
7	4003 at	3½	2	4106 at	1	0½	7	6713 at	1	9½
8	1009 at	3¾	3	2073 at	1	0¾	8	4107 at	1	9¾
9	7777 at	4	4	4496 at	1	1	9	6034 at	1	10
10	6666 at	4¼	5	2176 at	1	1¼	10	7106 at	1	10¼
C 1	7055 at	4½	6	4041 at	1	1½	J 1	1008 at	1	10½
2	2068 at	4¾	7	3075 at	1	1¾	2	7243 at	1	10¾
3	5701 at	5	8	6074 at	1	2	3	6107 at	1	11
4	6038 at	5¼	9	1076 at	1	2¼	4	4108 at	1	11¼
5	7505 at	5½	10	6703 at	1	2½	5	2176 at	1	11½
6	2016 at	5¾	G 1	7505 at	1	2¾	6	3084 at	1	11¾
7	5009 at	6	2	6011 at	1	3	7	4106 at	2	0¼
8	4337 at	6¼	3	2706 at	1	3¼	8	7108 at	2	10¼
9	2008 at	6½	4	4011 at	1	3½	9	6073 at	3	4½
10	7055 at	6¾	5	7607 at	1	4	10	4108 at	2	11¼
D 1	1009 at	7	6	8709 at	1	4¼	K 1	7416 at	3	7¼
2	2008 at	7¼	7	2801 at	1	4½	2	2403 at	4	0½
3	3716 at	7½	8	9999 at	1	4¾	3	4111 at	5	10¾
4	4108 at	7¾	9	8808 at	1	5	4	7068 at	6	8
5	2009 at	8	10	4167 at	1	5¼	5	4103 at	7	5¼

		s.	d.
6	2009 at	8	10½
7	4106 at	8	4¾
8	7241 at	9	1¼
9	6073 at	9	8¾
10	4108 at	10	0½
L 1	1068 at	10	11¾
2	7077 at	11	5
3	6073 at	11	10½
4	2016 at	12	4
5	3074 at	12	0¾
6	1068 at	13	7½
7	4063 at	13	2¼
8	1068 at	14	0¼
9	8998 at	14	9½
10	7061 at	15	6¾
M 1	4176 at	15	0¾
2	7241 at	16	0½
3	8017 at	16	10½
4	1084 at	17	3½
5	1711 at	17	8¾
6	6043 at	18	5
7	1908 at	18	11½
8	4004 at	19	0¼
9	5168 at	19	7¼
10	1003 at	19	11¾
N 1	7604 at	5	3¾
2	6103 at		11½
3	2074 at	3	0¼
4	1068 at	7	6½
5	2741 at		9¼
6	6045 at	3	4
7	4178 at	8	10
8	1064 at	11	6½
9	2701 at	19	4¾
10	6041 at	2	6
O 1	4106 at	7	2
2	8207 a	1	8¼
3	6073 at	13	5½
4	7612 at	5	6
5	4107 at	14	8
6	3062 at	17	6½
7	1069 at	4	10
8	2076 at	9	11½
9	7055 at	16	8
10	6073 at		7¾
P 1	2706 at	8	2
2	9709 at	15	6
3	2417 at		10¼
4	4109 at		7¼
5	6701 at	9	2½
6	4106 at	5	6¾
7	7605 at	18	4
8	3733 at	5	11½
9	4107 at	1	3
10	1006 at	17	7½
Q 1	2746 at	3	1½
2	8049 at		10
3	6413 at	8	11¼
4	7245 at	13	6¾
5	4179 at	6	0¾
6	2416 at	13	4
7	3074 at	15	6¼
8	2418 at	4	8¾
9	7165 at	11	7½
10	4083 at	16	9
R 1	8417 at	9	4½
2	6406 at	13	8
3	2417 at	19	2½
4	4406 at	1	4
5	2705 at	15	9¼
6	6168 at	8	2¼
7	4037 at	9	5½
8	7611 at	3	8
9	4109 at	17	10¾
10	2716 at	11	4
S 1	4103 at	11	11½
2	6017 at	8	2¼
3	4106 at		10½
4	7210 at	4	0¼
5	6707 at	18	5
6	1068 at	3	10
7	9907 at	14	10½
8	2776 at	4	6
9	1003 at	5	8
10	2078 at	11	4½
T 1	6009 at	19	5¼
2	7062 at	8	6½
3	4106 at	6	8
4	7382 at	19	11¾
5	6701 at	6	4
6	2071 at	7	2½
7	9168 at	11	8¾
8	4109 at	15	10½
9	7635 at	16	0¾
10	4108 at	18	0¼

		£.	s.	d.
U 1	3706 at	1	0	0¼
2	2414 at	1	0	0½
3	3071 at	1	0	0¾
4	4103 at	1	0	1
5	6111 at	1	0	1¼
6	7335 at	1	0	1½
7	4106 at	1	0	1¾
8	7106 at	1	0	2
9	3410 at	1	0	2¼
10	7101 at	1	0	2½

		£.	s.	d.
V 1	3073 at	1	0	2¾
2	2016 at	1	0	3
3	1410 at	1	0	3¼
4	2718 at	1	0	3½
5	4106 at	1	0	3¾
6	7211 at	1	0	4
7	3061 at	1	0	4¼
8	7608 at	1	0	4½
9	4107 at	1	0	4¾
10	6081 at	1	0	5
W 1	2716 at	1	0	5¼
2	8133 at	1	0	5½
3	2003 at	1	0	5¾
4	6111 at	1	0	6
5	4007 at	1	0	6¼
6	9003 at	1	0	6½
7	4871 at	1	0	6¾
8	7065 at	1	0	7
9	4103 at	1	0	7¼
10	2081 at	1	0	7½
X 1	6777 at	1	0	7¾
2	8888 at	1	0	8
3	4106 at	1	0	8¼
4	2713 at	1	0	8½
5	7101 at	1	0	8¾
6	6003 at	1	0	9
7	4172 at	1	0	9¼
8	6714 at	1	0	9½
9	8103 at	1	0	9¾
10	7555 at	1	0	10
Y 1	2706 at	1	0	10¼
2	4108 at	1	0	10½
3	3704 at	1	0	10¾
4	4105 at	1	0	11
5	2714 at	1	0	11¼
6	3063 at	1	0	11½
7	4705 at	1	0	11¾
8	3413 at	1	1	1¼
9	4006 at	1	1	3½
10	7011 at	1	1	4
Z 1	1041 at	1	1	5¾
2	6072 at	1	1	8½
3	4063 at	1	1	10¼
4	3071 at	1	1	11
5	4016 at	1	1	11½
6	3071 at	1	1	11¾
7	4106 at	1	2	7
8	3009 at	1	3	8½
9	7061 at	1	4	0¼
10	4603 at	1	5	10½
A 2 1	6723 at	1	6	8
2	4107 at	1	7	1¼
3	4109 at	1	8	11
4	3075 at	1	9	6½
5	4172 at	1	10	9
6	6034 at	1	11	11½
7	3716 at	1	12	6
8	4103 at	1	13	3¾
9	7168 at	1	14	7½
10	5010 at	1	15	0½
B 2 1	6703 at	1	16	10
2	7111 at	1	17	4¼
3	8405 at	1	18	6
4	3303 at	1	19	7½
5	7701 at	1	4	8¾
6	6702 at	2	11	6½
7	3005 at	3	9	8¾
8	6701 at	4	0	10
9	4112 at	5	13	6½
10	7006 at	6	16	10¾
C 2 1	2706 at	7	17	7
2	3175 at	8	9	6½
3	4003 at	9	10	2½
4	5071 at	10	16	8¼
5	6703 at	11	11	11
6	4013 at	12	7	0¼

		£.	s.	d.
7	4018 at	3	16	10½
8	7077 at	4	8	2
9	3241 at	1	13	6½
10	7053 at	3	10	8
D 2 1	4106 at	7	10	6
2	5168 at	8	19	11¾
3	4001 at	4	13	4
4	7032 at	1	11	10¾
5	3301 at	1	16	8
6	4878 at	3	12	6
7	2410 at	11	18	7½
8	4107 at	13	13	0
9	3706 at	5	5	5
10	4107 at	9	9	9
E 2 1	2222 at	7	7	8¼
2	6063 at	5	15	10
3	7701 at	10	17	6½
4	4040 at	4	4	4
5	6183 at	11	0	8¾
6	7015 at	6	8	6
7	9321 at	5	18	10¼
8	3764 at	8	14	7½
9	7003 at	3	13	8¾
10	4107 at	1	0	11½
F 2 1	7206 at	4	6	8
2	4173 at	9	3	4
3	7004 at	8	16	8½
4	6701 at	7	11	7¾
5	5505 at	4	19	11¾
6	3319 at	3	3	3
7	6702 at	9	19	9¼
8	4176 at	10	10	10½
9	7213 at	4	16	2
10	4108 at	7	7	11½
G 2 1	4107 at	3	13	0½
2	6128 at	5	0	10¼
3	7215 at	6	11	11
4	3701 at	8	0	2½
5	4109 at	1	10	6¼
6	3274 at	1	0	9½
7	6035 at	7	17	10¼
8	1183 at	11	19	11¾
9	4608 at	12	6	8¼
10	3207 at	9	9	9
H 2 1	4115 at	7	16	8½
2	2009 at	10	10	10
3	4116 at	3	11	2¾
4	9003 at	9	16	6½
5	7634 at	13	13	8¼
6	4107 at	14	6	6½
7	3721 at	1	11	8¼
8	7168 at	8	18	9¾
9	3707 at	10	16	10¼
10	4106 at	11	3	11½
I 2 1	2807 at	9	13	6½
2	4106 at	3	10	4
3	7241 at	4	7	7
4	1073 at	8	8	8
5	6512 at	7	17	5¼
6	4103 at	6	11	11
7	9999 at	15	15	8½
8	4444 at	8	0	2¼
9	6216 at	6	14	8¼
10	4761 at	12	12	9½
J 2 1	5813 at	11	11	11
2	6128 at	1	9	6½
3	4057 at	5	5	5¼
4	3872 at	9	5	8
5	4103 at	16	16	2½
6	7777 at	17	4	10
7	8411 at	3	3	3¼
8	4119 at	19	19	10¼
9	3716 at	6	6	11¼
10	8888 at	8	8	8
K 2 1	5555 at	5	5	5
2	6274 at	12	12	7¼
3	8416 at	9	9	11½
4	6324 at	8	17	6

		£.	s.	d.
5	4103 at	11	11	11¼
6	8641 at	16	8	10½
7	4444 at	4	4	4½
8	7600 at	10	8	10¾
9	9217 at	7	16	4
10	8013 at	13	8	10¼
L 2 1	6724 at	19	19	11
2	8164 at	7	7	2¼
3	6418 at	10	10	8½
4	3724 at	6	17	6½
5	4103 at	17	0	11¼
6	8631 at	9	19	10¼
7	4103 at	1	8	11
8	7638 at	4	15	9½
9	4169 at	6	18	7¾
10	9193 at	8	13	3¼
M2 1	3333 at	15	5	10
2	2969 at	17	16	2½
3	4141 at	14	1	9½
4	8686 at	8	6	7
5	9009 at	11	11	11
6	7513 at	9	19	9½
7	6703 at	8	4	2
8	4137 at	5	5	5
9	6012 at	1	1	10¼
10	8061 at	7	0	8½
N 2 1	4217 at	11	18	6¼
2	6103 at	4	14	4
3	8019 at	6	16	6
4	7213 at	19	19	11¾
5	8172 at	18	18	10¼
6	3416 at	17	17	9½
7	4111 at	16	16	10½
8	5505 at	15	15	8¼
9	4107 at	14	14	0¾
10	5061 at	13	13	11¾
O 2 1	7109 at	3	13	6¼
2	5601 at		13	4½
3	8105 at	4	3	11½
4	7611 at	5	19	5¾
5	7509 at		19	3¾
6	6508 at		15	8½
7	4763 at	1	13	8½
8	2715 at			11¾
9	8001 at		8	10¾
10	1709 at	2	7	11½
P 2 1	4175 at	6	16	2½
2	7001 at			8¾
3	1977 at	1	8	6½
4	4033 at		11	4¼
5	3701 at			7¾
6	6035 at	3	7	2½
7	4106 at	4	0	8½
8	2991 at		6	5¼
9	7077 at		3	8¾
10	3872 at	1	18	6¾
Q 2 1	4107 at	5	18	3¾
2	7555 at		9	9½
3	6873 at		10	10¾
4	4017 at			4¾
5	7111 at	11	3	10½
6	2017 at	5	8	7¼
7	8001 at			5¼
8	2173 at		7	11½
9	4105 at	2	11	8¾
10	5005 at		13	6½
R 2 1	8039 at			10¾
2	7605 at		7	8¼
3	7219 at	3	18	3½
4	8035 at		3	8½
5	4107 at	2	10	8½
6	7419 at			7¼
7	359 at	17	18	10¾
8	8169 at	3	16	7¼
9	3871 at		17	8¾
10	8763 at	3	13	2¼
S 2 1	4173 at	6	7	8¼
2	2071 at	5	13	10

		£.	s.	d.
3	3056 at		11	8¼
4	2745 at		16	7
5	8110 at			11¾
6	7241 at	3	8	10¼
7	6413 at		9	9½
8	7156 at			10¼
9	4637 at	7	7	7
10	5061 at		19	2¼
T 2 1	8413 at			4½
2	6748 at	8	14	4
3	3725 at	1	18	6½
4	4177 at	2	3	8
5	3716 at		15	0¾
6	7199 at			7¼
7	6413 at	3	0	8½
8	2741 at	4	0	2¾
9	3716 at			11¼
10	2841 at	5	17	0½
U 2 1	4167 at	7	9	9
2	8018 at		4	10½
3	7163 at	3	17	0¾
4	2415 at		16	6½
5	3751 at	4	0	11
6	4168 at	2	13	3¾
7	8617 at		19	1¼
8	6743 at	1	0	8¾
9	2716 at	9	9	0¼
10	8787 at	11	4	4
V 2 1	7413 at	8	7	8½
2	6303 at		10	0¾
3	2746 at			7½
4	4108 at		3	11¼
5	6162 at		16	5
6	2417 at	4	17	10½
7	3715 at	3	0	11
8	2643 at		7	1¾
9	4107 at	1	1	0¼
10	6274 at	7	10	2½

		£.	s.	d.
W 2 1	3769 at	1	11	8¼
2	4172 at	2	7	5½
3	3601 at		9	8¾
4	2753 at			6¼
5	4005 at	12	4	2½
6	7261 at	6	16	4¼
7	3028 at		6	10½
8	2871 at			4¾
9	4106 at	2	17	0¼
10	3721 at		18	7
X 2 1	6419 at	1	11	1
2	7207 at			10¼
3	6173 at	3	13	9
4	2418 at	7	16	3½
5	3003 at		3	11
6	6107 at	10	4	4
7	2415 at		14	11½
8	3333 at	6	13	8¼
9	2707 at		5	9¾
10	7011 at	9	11	11
Y 2 1	4106 at	3	5	0½
2	3731 at		12	6¾
3	2415 at		11	11½
4	8274 at	4	18	6¼
5	5051 at		19	0½
6	2716 at	1	13	8
7	7462 at		14	2½
8	7001 at			5¼
9	2463 at	5	5	5¼
10	8107 at	2	11	11½
Z 2 1	2222 at		9	5¾
2	7441 at	4	4	4
3	6666 at		7	10¾
4	3701 at			9¾
5	2436 at	5	15	4½
6	4108 at	7	0	10¼
7	6231 at	11	7	7
8	2046 at		8	0¼

		£.	s.	d.
9	2118 at	1	16	4¼
10	7241 at	6	4	9¼
A 3 1	5555 at	1	16	0¼
2	2706 at	3	8	8
3	7513 at		18	11¾
4	4162 at	7	11	2¼
5	3820 at	5	14	0¼
6	6084 at		11	11
7	2018 at			9¾
8	6143 at			4¼
9	7284 at	6	8	10¼
10	4172 at	2	17	7
B 3 1	3087 at		15	8¼
2	4196 at		8	7½
3	2843 at	1	17	2
4	7618 at	4	3	6½
5	6706 at		9	5¼
6	4083 at	6	0	2¼
7	2741 at	2	13	6
8	1087 at		14	10
9	4444 at	1	8	0½
10	8073 at			11¼
C 3 1	8888 at	3	13	8¼
2	1717 at		11	0¼
3	2332 at			10¼
4	6174 at	9	8	7¾
5	4218 at		3	3¼
6	7163 at	1	17	9
7	2416 at	2	5	7¾
8	4555 at		13	4¼
9	2073 at			7¾
10	3741 at	7	18	2
D 3 1	2846 at	3	18	10¼
2	7414 at	6	3	4
3	2173 at		14	7½
4	1111 at	1	1	1¼
5	4107 at	7	7	7½
6	2603 at		8	8¼
7	5246 at	2	13	9½

		£.	s.	d,
8	4173 at	5	7	2
9	2206 at	6	13	8¼
10	5757 at	9	16	9
E 3 1	2989 at		9	9¾
2	3811 at			7½
3	2468 at	1	7	0¼
4	6541 at	11	8	7
5	4163 at		13	4
6	2781 at			10¼
7	6417 at	5	15	8
8	4263 at	7	3	4
9	3003 at		16	8½
10	7417 at		5	11¾
F 3 1	4014 at			8½
2	6241 at	3	8	7¼
3	2768 at	9	16	4
4	4101 at		13	9¾
5	7207 at	5	4	8
6	6011 at		6	8
7	2175 at	3	11	2
8	4216 at	3	3	11½
9	6825 at		9	9¼
10	7418 at	6	14	6
G 3 1	8411 at	5	17	6
2	2864 at	4	13	10½
3	3009 at		16	8¼
4	7707 at			11¾
5	2651 at	12	8	2
6	3784 at		19	10
7	4108 at	7	17	11½
8	6088 at	8	18	4¾
9	3711 at		5	8½
10	2873 at		19	3¾
H 3 1	6087 at	5	15	0¾
2	4106 at	8	0	11
3	2875 at		11	8½
4	4107 at			8¾
5	2751 at	4	9	10
6	4163 at	1	19	11¾

			£.	s.	d.
7	7286	at		16	6½
8	4108	at	10	10	8½
9	2607	at	11	11	11
10	4168	at	12	14	2½
I 3 1	4139½	at	1	4	6
2	2705½	at		13	7½
3	6483⅝	at	2	11	8¼
4	5164½	at		15	10
5	2715½	at			11½
6	1607⅝	at	3	10	6¼
7	2711⅝	at		11	11½
8	4133⅜	at	3	7	8
9	2416⅞	at	2	18	9¼
10	3719½	at		17	7½
J 3 1	2705⅜	at			10½
2	4167⅛	at	1	18	9
3	3072½	at	2	9	4½
4	5631⅞	at	4	14	2
5	2715⅜	at		16	6¼
6	4210⅜	at		11	2¼
7	8175½	at	1	12	8
8	7401⅜	at	2	3	5¼
9	4163$\frac{9}{10}$	at			9¾
10	7241½⅛	at	3	15	8½
K 3 1	7601½	at	2	1	10¼
2	4168$\frac{1}{16}$	at	5	17	8
3	3072½	at	6	13	9½
4	2711⅜	at		4	7¾
5	6173⅜	at			8¼
6	4102⅞	at	1	19	11¾
7	3333½⅛	at		14	7¾
8	7121⅜	at	3	11	11
9	4072½	at		16	6¼
10	5134⅜	at		1	11¾
L 3 1	6201⅜	at			10½
2	7513½⅛	at	1	16	5¼
3	4007⅜	at	2	14	8
4	2105$\frac{1}{11}$	at		15	5½
5	7613⅜	at		4	8¼
6	2005$\frac{9}{10}$	at	1	18	7½
7	3713½	at	1	16	4
8	4103⅜	at		13	6¼
9	2401⅞	at		.8	7½
10	7053$\frac{9}{10}$	at	5	14	8½
M 3 1	2222$\frac{7}{16}$	at	3	14	1⅛
2	6741⅛	at		17	10¼
3	4101⅜	at	4	1	11½
4	7613⅛	at		14	9
5	4016⅞	at			11¼
6	2107$\frac{1}{16}$	at	7	7	7
7	8888⅜	at	8	8	8
8	2504½⅛	at		16	6¼
9	3333⅜	at		3	9¾
10	7001⅛	at	1	18	3¼
N 3 1	4012½$\frac{9}{11}$	at	2	7	8
2	3726⅜	at		18	7½
3	6116⅛	at		3	11¼
4	2401$\frac{5}{6}$	at	3	18	3
5	7073$\frac{9}{11}$	at	5	15	10
6	4106⅛	at		17	7½
7	2417⅜	at	2	17	9
8	7406$\frac{1}{16}$	at	4	8	2¼
9	3505⅜	at		13	11
10	7203⅛	at	5	8	2½
O 3 1	7416$\frac{3}{11}$	at	3	13	4¼
2	2107⅛	at	4	6	7
3	1180⅞	at		11	5½
4	6101$\frac{9}{10}$	at			10½
5	2415½⅛	at	3	8	4¼
6	4163$\frac{7}{16}$	at	2	11	8
7	7016⅛	at		16	6¼
8	2601$\frac{1}{11}$	at	4	3	8¼
9	7125$\frac{9}{16}$	at	1	17	7½
10	4001$\frac{3}{16}$	at		13	10½
P 3 1	9009$\frac{1}{11}$	at		6	4¼
2	2711$\frac{9}{16}$	at	3	11	7½
3	4103$\frac{1}{11}$	at	1	13	10
4	6215½⅛	at	7	8	11¼

			£.	s.	d.
	5	4001 9/17	at	0	17	2½
	6	2033 1/2	at	6	6	6
	7	3779 1/2	at	4	4	4½
	8	6103 9/17	at	0	13	8½
	9	2071 6/8	at	3	3	4
	10	7100 1/2	at	8	8	8
Q	3 1	2416 4/8	at	1	11	2½
	2	6041 9/10	at	2	8	3½
	3	3175 4/8	at	0	16	10½
	4	4063 1/2	at	0	3	9½
	5	2418 7/8	at	0	14	6½
	6	4105 1/2	at	4	0	8½
	7	2613 1/2	at	3	13	0½
	8	3710 9/17	at	0	14	8½
	9	8183 4/8	at	6	13	1½
	10	4049 9/17	at	0	8	7
R	3 1	6583 9/8	at	1	19	11½
	2	4107 1/2	at	2	6	10
	3	3714 4/8	at	0	16	7½
	4	4168 1/2	at	7	7	0½
	5	2505 1/2	at	5	16	10
	6	7169 7/17	at	0	18	3½
	7	7673 1/2	at	0	4	10½
	8	2515 9/8	at	3	16	4½
	9	7429 7/8	at	1	18	9
	10	8164 1/2	at	2	7	0½
S	3 1	1768	at	0	0	9½
	2	4106	at	0	0	11½
	3	7416	at	0	1	3½
	4	4603	at	0	2	7¼ ½
	5	3106	at	0	5	11½
	6	4618	at	0	7	3 4/8
	7	6281	at	0	4	5¼ ½
	8	4106	at	0	8	7½
	9	1069	at	0	11	2½
	10	2413	at	0	13	8 7/8
T	3 1	4105	at	0	3	7½
	2	2843	at	0	0	11 4/8
	3	6416	at	0	4	8½ ½
	4	3016	at	0	15	9 7/8
	5	2601	at	0	0	10 8/8
	6	4108	at	0	17	6 4/8
	7	2013	at	0	18	4 7/8
	8	8041	at	0	10	11 9/10
	9	4107	at	0	16	5½ ½
	10	8413	at	0	19	6 1/8
U	3 1	7416	at	1	16½	
	2	4073	at	0	11½	
	3	6418	at	1	2	7 9/8
	4	7241	at	0	16	8½
	5	4106	at	1	14	4½
	6	7261	at	2	10½	
	7	4108	at	0	14 7/8	
	8	6413	at	0	9	8½ ½
	9	4176	at	3	5	4 9/10
	10	2617	at	0	8	7½
V	3 1	4001	at	4	16 9/10	
	2	3751	at	3	6	6½ ½
	3	9093	at	0	14	9 7/8
	4	2164	at	0	8½	
	5	7003	at	0	5	8½ ½
	6	5416	at	7	4	9½
	7	2108	at	0	7	11 9/8
	8	4073	at	0	12	10½
	9	2841	at	3	4	7½
	10	6532	at	0	0	4½
W	3 1	4108	at	4	18	7½
	2	6835	at	0	19½	
	3	4106	at	0	7	10½
	4	2418	at	2	11 9/10	
	5	8165	at	0	3	9½
	6	4003	at	0	17	7 9/17
	7	6417	at	3	18½	
	8	4105	at	0	16	8 9/10
	9	3763	at	5	7	11 9/10
	10	4109	at	0	14½	
X	3 1	6725	at	3	13	8½
	2	4106	at	0	7	10½

			£.	s.	d.				£.	s.	d.
3	9417	at	0	19	$11\frac{1}{8}$	7	3005	at	0	8	$11\frac{7}{8}$
4	8103	at	2	14	$6\frac{3}{8}$	8	3137	at	0	0	$11\frac{9}{10}$
5	7418	at	1	13	$8\frac{9}{10}$	9	6401	at	6	8	$9\frac{1}{16}$
6	6405	at	0	9	$6\frac{1}{4}\frac{3}{8}$	10	7138	at	0	13	$5\frac{1}{11}$
7	4653	at	0	0	$11\frac{3}{4}\frac{1}{8}$	A 4 1	4107	at	8	16	$9\frac{9}{16}$
8	3407	at	3	13	$8\frac{5}{8}$	2	2741	at	1	8	$11\frac{3}{7}$
9	2841	at	2	8	$11\frac{9}{10}$	3	4106	at	0	14	$8\frac{1}{12}$
10	4103	at	0	13	$8\frac{1}{12}$	4	3831	at	2	8	$7\frac{1}{16}$
Y 3 1	6718	at	1	14	$6\frac{9}{11}$	5	8109	at	4	8	$11\frac{1}{8}$
2	3073	at	4	16	$1\frac{9}{10}$	6	4003	at	0	13	$8\frac{9}{11}$
3	2746	at	0	18	$7\frac{3}{8}$	7	6207	at	6	19	$5\frac{9}{10}$
4	4103	at	0	14	$11\frac{1}{11}$	8	4107	at	2	7	$8\frac{1}{11}$
5	6238	at	0	3	$4\frac{3}{8}$	9	2416	at	0	11	$11\frac{3}{8}$
6	4001	at	5	7	$6\frac{9}{10}$	10	8403	at	0	3	$7\frac{1}{4}\frac{3}{8}$
7	2735	at	0	9	$4\frac{1}{2}\frac{3}{11}$	B 4 1	2410	at	8	10	$1\frac{1}{12}$
8	6113	at	0	3	$7\frac{1}{4}\frac{9}{16}$	2	6183	at	0	13	$8\frac{1}{2}\frac{3}{8}$
9	2046	at	1	16	$4\frac{9}{16}$	3	7416	at	0	5	$10\frac{9}{11}$
10	3712	at	2	8	$6\frac{3}{8}$	4	4218	at	1	19	$11\frac{1}{4}\frac{3}{8}$
Z 3 1	4106	at	7	18	$1\frac{1}{12}$	5	6032	at	2	8	$9\frac{3}{4}\frac{1}{12}$
2	6413	at	0	9	$8\frac{7}{8}$	6	8416	at	0	14	$7\frac{9}{16}$
3	4106	at	0	3	$9\frac{9}{12}$	7	3824	at	0	3	$6\frac{1}{4}\frac{3}{11}$
4	2704	at	0	4	$6\frac{1}{2}\frac{3}{11}$	8	4108	at	1	6	$8\frac{1}{12}$
5	3241	at	3	8	$4\frac{9}{10}$	9	3841	at	0	4	$11\frac{9}{16}$
6	4638	at	1	16	$8\frac{1}{13}$	10	6189	at	3	18	$7\frac{1}{2}\frac{1}{12}$

Find the expense of travelling

	m.	*f.*	*p.*		£.	*s.*	*d.*	
C 4 1	7	3	11	at	0	6	8	per mile.
2	13	7	25	at	0	5	10	..
3	11	5	25	at	0	1	4	..
4	27	1	35	at	2	0	0	..
5	31	7	36	at	2	13	4	..
6	32	3	34	at	0	7	$9\frac{1}{2}$	..
7	31	6	22	at	0	5	4	..
8	40	5	$27\frac{1}{2}$	at	0	4	8	..
9	44	2	15	at	0	1	$10\frac{1}{2}$	..
10	48	4	24	at	0	9	$10\frac{1}{2}$	..
D 4 1	6	5	22	at	0	3	4	..
2	0	7	27	at	0	3	$0\frac{1}{2}$	..
3	3	6	25	at	0	3	10	..

	m.	*f.*	*p.*		£.	*s.*	*d.*	
4	0	7	35	at	0	1	4½	per mile.
5	5	3	18	at	0	1	8	..
6	6	1	30	at	0	1	10½	..
7	0	5	20	at	0	4	5½	..
8	8	1	26	at	0	3	9	..
9	9	2	16	at	0	4	2½	..
10	0	6	38	at	0	3	8	..
E 4 1	56	7	25	at	1	3	7½	..
2	23	4	16	at	0	2	10¼	..
3	64	2	30	at	0	4	8¼	..
4	72	1	28	at	0	3	9¼	..
5	0	7	20	at	1	2	10¼	..
6	3	3	15	at	0	1	8	..
7	87	4	32	at	0	1	2½	..
8	56	1	15	at	0	2	3¾	..
9	21	0	37½	at	0	3	6	..
10	0	5	25	at	0	14	10¾	..
F 4 1	9	3	16	at	2	3	8	..
2	21	2	14	at	0	7	5$\frac{1}{10}$	..
3	43	0	17½	at	0	11	8½	..
4	12	7	26	at	1	3	10	..
5	76	1	25	at	0	10	6	..
6	83	0	18	at	0	4	10½	..
7	7	5	24	at	0	1	8¼	..
8	0	6	31⅜	at	0	2	7	..
9	28	1	24⅞	at	0	3	10½	..
10	66	2	20⅜	at	0	7	6$\frac{1}{10}$	..

Find the cost of

	Yds.qrs.	*nls.*		£.	*s.*	*d.*	
G 4 1	7	3	3	at	0	10	4	per yard.
2	11	0	2	at	0	6	8	..
3	12	1	1	at	0	7	0½	..
4	9	2	3	at	0	2	10¼	..
5	14	0	2½	at	0	5	0½	..
6	26	1	3	at	0	8	7	..
7	28	2	1¾	at	0	10	8½	..
8	94	1	2	at	0	17	4⅜	..
9	41	0	3⅜	at	0	12	2½	..
10	46	1	2⅛	at	0	9	10⅛	..

	E.e.	qrs.	nls.		£.	s.	d.	
H4	1	13	4	3 at	0	15	10	per ell.
	2	15	2	2 at	0	17	11	
	3	18	1	3 at	1	4	2	
	4	25	3	2 at	1	3	7½	..
	5	31	1	1 at	0	15	4¼	
	6	21	0	3 at	0	14	8½	..
	7	43	4	1 at	1	3	6	..
	8	48	1	2 at	0	13	8 1/10	..
	9	52	0	3¾ at	0	9	10½	..
	10	27	3	1¾ at	1	4	4¾	..

	Fr.	e.qrs.	nls.		£.	s.	d.	
I 4	1	21	2	3 at	1	1	10½	per ell.
	2	24	3	1 at	1	4	9½	..
	3	21	5	1 at	0	14	6	..
	4	9	3	3 at	1	3	4½	..
	5	15	1	2 at	0	17	10¼	..
	6	26	0	2 at	0	18	4½	..
	7	34	4	1 at	1	3	10	..
	8	35	2	2 at	0	18	6 1/2	..
	9	42	1	3¾ at	1	4	4½	..
	10	50	5	3¾ at	0	15	10¾	..

	Fl.	e.qrs.	nls.		£.	s.	d.	
J 4	1	29	0	3 at	0	7	9	per ell.
	2	32	1	1 at	0	15	8½	..
	3	14	2	3 at	0	8	7¼	..
	4	7	0	2 at	0	11	6½	..
	5	42	2	1 at	0	9	8	..
	6	13	0	2 at	0	10	6½	..
	7	11	1	3 at	0	9	2¼	..
	8	28	2	1 at	0	16	4 1/4	..
	9	38	0	1 1/4 at	0	12	10¼	..
	10	45	1	3¾ at	0	10	8 1/2	..

Find the cost of

	Sq.yds.	ft.	in.		£.	s.	d.	
K 4	1	11	7	100 at	1	7	0	per yard.
	2	18	5	84 at	1	0	8½	..
	3	23	2	24 at	1	15	0	..
	4	27	8	120 at	0	13	7½	..
	5	35	1	90 at	1	10	0¾	..
112	6	7	3	72 at	1	0	4	per foot.

	Sq.yds.	ft.	in.		£.	s.	d.	
	7	5	5 108	at	0	11	6¾	per foot.
	8	11	4 36	at	0	5	8½	..
	9	42	3 84	at	1	3	9	per yard.
	10	56	7 114	at	0	14	7¾	..
L 4	1	62	6 96	at	0	8	10¼	..
	2	75	5 56	at	1	7	6 1/16	..
	3	83	4 54	at	0	17	10½	..
	4	0	8 108	at	2	4	8	..
	5	49	1 82	at	1	8	9½	..
	6	94	0 112	at	0	13	2¾	..
	7	0	7 54	at	1	4	8 9/16	..
	8	27	3 80/3	at	0	16	4½	..
	9	46	0 20⅔	at	1	8	9	..
	10	110	5 72½	at	1	11	10⅞	..

Find the rent of

	A.	r.	p.		£.	s.	d.	
M 4	1	38	3 35	at	1	11	8½	per acre.
	2	42	1 24	at	1	3	4	..
	3	47	2 32	at	2	11	4	..
	4	52	0 30	at	3	11	10½	..
	5	58	3 26	at	2	17	6	..
	6	10	3 35	at	37	10	0½	..
	7	23	3 28	at	15	15	2¾	..
	8	59	3 39	at	20	11	6	..
	9	7	1 25	at	0	7	6½	per rood.
	10	11	0 35	at	0	9	10¾	..
N 4	1	19	2 18	at	14	10	0	per acre.
	2	27	1 26	at	12	14	3¾	..
	3	49	3 16	at	2	7	3½	..
	4	75	1 24	at	1	18	10½	per rood.
	5	38	2 15	at	3	1	6	..
	6	0	3 12	at	2	16	10	per acre.
	7	58	3 30/3	at	2	17	8	..
	8	64	1 24 1/16	at	1	8	4	..
	9	72	0 11⅔	at	0	16	8¾	..
	10	43	3 32⅞	at	1	8	10⅞	..

Find the expense of cutting

	Cu.yds.	ft.	in.		£.	s.	d.	
O 4	1	9	21 433	at	4	14	6	per yard.
	2	11	18 576	at	1	11	6	..

	Cu.yds.	*ft.*	*in.*			£.	*s.*	*d.*	
	3	17	9	1296	at	3	3	0	per yard.
	4	21	5	1080	at	2	9	6	..
	5	26	17	1296	at	5	10	3	..
	6	28	24	1512	at	4	15	0	..
	7	33	3	1584	at	3	17	6	..
	8	38	8	720	at	2	10	3	..
	9	39	12	648	at	3	14	6	..
	10	45	18	1008	at	4	3	6	..
P4	1	23	15	825	at	2	11	$6\frac{1}{2}$	..
	2	36	21	1428	at	1	16	$4\frac{1}{2}$	..
	3	43	19	1440	at	2	7	2	..
	4	58	8	648	at	3	11	$10\frac{7}{8}$	..
	5	67	10	864	at	2	8	$11\frac{1}{2}$	..
	6	72	16	960	at	1	9	4	..
	7	85	19	1296	at	2	15	$8\frac{1}{2}$	..
	8	92	10	$1440\frac{3}{8}$	at	1	8	7	..
	9	96	20	$216\frac{7}{8}$	at	1	10	8	..
	10	99	21	$144\frac{3}{4}$	at	2	8	$6\frac{1}{4}\frac{1}{2}$	..

Find the cost of

	cwt.	*qrs.*	*lbs.*			£.	*s.*	*d.*	
Q4	1	5	0	3	at	3	7	8	per cwt.
	2	8	3	7	at	4	18	0	..
	3	9	3	14	at	5	5	0	..
	4	10	2	25	at	4	1	8	..
	5	15	3	4	at	1	15	0	..
	6	17	1	11	at	0	16	4	..
	7	17	3	11	at	1	1	0	..
	8	18	0	3	at	2	11	4	..
	9	18	3	17	at	1	12	8	..
	10	19	2	5	at	3	7	8	..
R4	1	20	3	21	at	2	9	0	..
	2	25	2	22	at	3	0	8	..
	3	17	3	13	at	10	16	$8\frac{1}{2}$	..
	4	19	1	13	at	10	16	$8\frac{1}{2}$	per ton.
	5	11	2	26	at	7	4	10	..
	6	18	0	21	at	9	15	$8\frac{1}{3}$	..
	7	29	1	13	at	1	8	$7\frac{1}{2}$	per cwt.
	8	58	3	24	at	2	3	7	..
	9	9	0	17	at	8	11	6	per ton.

		cwt.	qrs.	lbs.		£.	s.	d.	
	10	12	3	25	at	9	9	9	per ton.
	tons	cwt.	qrs.	lbs.		£.	s.	d.	
S 4	1	8	17	3	14	at	3	7	4	per cwt.
	2	5	8	1	18	at	2	18	5	. .
	3	7	12	0	8	at	8	4	6	per ton.
	4	0	15	1	22	at	9	15	4	. .
	5	4	16	2	16	at	1	7	6	per cwt.
	6	3	8	0	12	at	2	4	10	. .
	7	0	18	1	18	at	8	12	4	per ton.
	8	6	3	0	24	at	7	3	2	. .
	9	8	19	3	27	at	9	14	6	. .
	10	9	11	0	26	at	8	15	9	. .
	cwt.	qrs.	lbs.	oz.		£.	s.	d.	
T 4	1	5	1	8	6	at	2	10	6	per cwt.
	2	0	3	17	10	at	4	1	4	. .
	3	3	0	12	8	at	1	4	7½	per qr.
	4	8	2	6	12	at	5	12	8	per cwt.
	5	0	1	16	14	at	0	0	10¾	per lb.
	6	2	3	9	9	at	0	14	6	per qr.
	7	4	0	15	10	at	1	8	9	. .
	8	3	3	13	13	at	7	16	8	per cwt.
	9	3	0	18	7	at	0	19	4½	per qr.
	10	6	1	4	11	at	1	8	10	. .
		cwt.	qrs.	lbs.		£.	s.	d.	
U 4	1	4	3	20	at	3	16	8½	per cwt.
	2	7	3	11	at	7	3	9½	. .
	3	4	1	24	at	15	7	0⅛	per ton.
	4	4	2	16	at	8	4	0⅛	per qr.
	5	0	3	24½	at	4	11	8	per cwt.
	6	8	0	22	at	5	8	10½	. .
	7	3	3	18	at	23	9	6	per ton.
	8	7	1	25	at	20	10	3⅞	. .
	9	0	2	16⅞	at	8	4	9$\frac{9}{10}$	per cwt.
	10	6	0	25½	at	27	8	2½	per ton.
	tons	cwt.	qrs.	lbs.		£.	s.	d.	
V 4	1	7	0	1	8	at	16	4	10⅞	per ton.
	2	3	13	0	10½	at	3	7	4⅛	per cwt.
	3	8	15	3	27	at	6	11	6⅜	. .
	4	2	9	0	4$\frac{9}{10}$	at	2	18	9¼	. .

	tons.	*cwt.*	*qrs.*	*lbs.*		£.	*s.*	*d.*	
5	7	11	1	16¾	at	9	8	10 7/12	per ton.
6	8	8	0	9	at	4	11	6½	..
7	4	7	1	15	at	8	6	10¾	..
8	7	14	3	10⅝	at	9	10	9	..
9	6	8	1	25¼	at	7	16	8½	..
10	5	11	0	18⅛	at	8	17	2 5/10	..

Find the cost of

	oz.	*dwt.*	*qrs.*		£.	*s.*	*d.*	
W4 1	0	15	11	at	9	10	6	per lb.
2	11	8	16	at	12	6	0	..
3	8	19	20	at	15	14	3	..
4	7	13	12	at	4	7	6	per oz.
5	6	16	21	at	3	8	4	..
6	5	11	15	at	1	11	6	..
7	4	14	23	at	16	10	6	per lb.
8	10	17	22	at	10	10	3	..
9	11	5	14	at	7	7	0½	..
10	10	14	23	at	8	8	8	..

	lbs.	*oz.*	*dwt.*		£.	*s.*	*d.*	
X4 1	9	3	14	at	10	15	6	per lb.
2	13	10	13	at	8	4	7	..
3	11	9	4	at	11	8	6	..
4	8	7	17	at	0	13	1	per oz.
5	4	3	22	at	1	1	8	..
6	27	11	10	at	12	8	4	per lb.
7	13	8	16	at	10	3	4¾	..
8	3	6	15	at	1	2	6½	per oz.
9	20	8	18	at	8	9	10⅝	per lb.
10	24	0	20⅜	at	7	7	3 1/12	..
Y4 1	4	16	12	at	8	10	6	per lb.
2	28	7	15	at	9	3	4	..
3	34	8	16	at	10	11	4	..
4	38	0	18	at	7	17	8½	..
5	41	3	10½	at	8	4	8	..
6	56	11	14⅜	at	6	15	10½	..
7	62	9	8	at	8	5	9⅗	..
8	76	4	14⅛	at	9	10	2	..
9	83	5	10⅗	at	12	12	4⅛	..
10	97	7	13⅛	at	11	11	11 1/11	..

		oz.	*dwt.*	*gr.*		£.	*s.*	*d.*	
Z 4	1	26	10	18	at	2	7	6	per oz.
	2	49	14	9	at	3	3	7½	..
	3	58	6	15	at	2	15	8⅜	..
	4	67	15	20⅜	at	3	4	6	..
	5	74	8	14	at	9	12	8¾	per lb.
	6	86	11	22$\frac{7}{12}$	at	9	15		..
	7	87	0	18¾	at	9	19	6⅜	..
	8	94	10	7	at	2	12	6⅛	per oz.
	9	98	4	16⅜	at	3	4	3⅛	..
	10	99	11	18$\frac{7}{12}$	at	3	5	6⅛	..

Find the cost of

		tods.	*st.*	*lbs.*		£.	*s.*	*d.*	
A 5	1	26	1	12	at	1	3	4½	per tod.
	2	37	0	11	at	0	10	6¼	..
	3	46	1	9	at	0	12	8	.
	4	58	0	13	at	0	16	9¾	..
	5	62	0	4	at	1	4	6	..
	6	76	1	8	at	1	5	8	..
	7	85	0	6	at	0	14	6⅜	..
	8	93	0	11½	at	1	0	8⅜	
	9	97	1	9¾	at	0	18	7⅞	..
	10	99	0	8⅜	at	0	16	2⅜	..

Find the cost of

		oz.	*dr.*	*sc.*	*grs.*		£.	*s.*	*d.*	
B 5	1	9	5	1	14	at	1	2	6	per lb.
	2	10	7	0	8	at	0	13	8½	..
	3	8	4	2	16	at	0	11	2¾	..
	4	9	6	1	18	at	2	3	4	..
	5	11	3	2	13	at	0	14	7$\frac{3}{7}$	..
	6	8	7	0	15	at	0	0	8½	per oz.
	7	7	6	0	10	at	0	2	7¼	..
	8	9	1	1	7	at	0	3	4½	..
	9	11	6	2	19½	at	0	4	6⅛	..
	10	8	3	2	14⅛	at	0	3	2⅛	..

		lbs.	*oz.*	*dr.*		£.	s.	*d.*	
C 5	1	16	8	5	at	1	3	6	per lb.
	2	25	3	7	at	2	13	8½	..
	3	27	5	4		1	8	2¾	..
	4	37	2	5	at	0	10	6½	..

	lbs.	*oz.*	*dr.*		£.	*s.*	*d.*	
5	45	0	6	at	0	12	8¾	per lb.
6	58	9	3	at	1	8	2	..
7	67	11	1	at	1	1	10½	..
8	76	10	7	at	0	13	9½	
9	85	7	3½	at	0	16	6	..
10	96	5	5½	at	1	7	6½	..

Find the cost of

	hhds.	*gals.*	*qts.*		£.	*s.*	*d.*	
D 5	1	9	33	3	at	22	17	6 per hhd. (wine)
	2	11	25	1	at	23	14	0 ..
	3	12	42	3	at	27	3	6 ..
	4	14	38	2	at	28	12	9 ..
	5	16	31	3	at	30	5	6 ..
	6	17	54	2	at	33	7	6 ..
	7	18	28	1	at	32	12	9 ..
	8	21	37	2	at	35	10	6 ..
	9	24	27	3	at	36	15	0 ..
	10	28	40	2	at	42	12	6 ..

	tier.	*gals.*	*qts.*		£.	*s*	*d.*	
E 5	1	8	21	3	at	15	8	0 per tierce.
	2	4	28	1	at	13	9	6 ..
	3	5	16	2	at	20	5	9 ..
	4	6	31	3	at	21	11	6 ..
	5	7	35	1	at	14	5	0 ..
	6	8	14	2	at	15	15	6 ..
	7	9	24	3	at	16	6	0 ..
	8	3	27	2	at	18	7	6 ..
	9	5	34	1	at	14	4	6 ..
	10	9	37	2	at	17	7	6 ..

	hhds.	*gals.*	*qts.*		£.	*s.*	*d.*	
F 5	1	8	33	3	at	2	19	6 per hhd. (ale)
	2	11	48	2	at	3	3	8 ..
	3	12	50	1	at	3	5	0 ..
	4	14	25	2	at	3	7	6 ..
	5	16	35	3	at	3	9	6 ..
	6	17	41	2	at	3	10	6 ..
	7	21	28	1	at	3	12	8 ..
	8	28	36	2	at	3	17	6 ..
	9	37	28	3	at	4	15	6 ..
	10	40	32	1	at	5	7	9 ..

		bar.	*gals.*	*qts.*		£.	*s.*	*d.*	
G 5	1	7	24	3	at	1	19	6	per bar.
	2	18	33	1	at	1	7	6	..
	3	28	12	2	at	1	8	3	..
	4	32	28	3	at	1	10	6	;.
	5	45	30	2	at	1	12	6	..
	6	46	18	3	at	2	2	6	..
	7	57	21	1	at	2	3	9	..
	8	68	32	2	at	2	5	9	..
	9	75	27	3	at	2	6	6	..
	10	86	25	1	at	2	7	6	..

Find the cost of

		qrs.	*bus.*	*pks.*		£.	*s.*	*d.*	
H 5	1	7	5	2	at	1	11	10	per qr.
	2	9	6	3	at	1	5	8	..
	3	11	3	2	at	1	8	6	..
	4	13	7	1	at	1	17	6	..
	5	15	5	3	at	2	10	6	..
	6	18	4	2	at	2	16	4	..
	7	26	6	3	at	2	17	9	..
	8	28	7	1	at	3	3	6	..
	9	29	3	3	at	3	10	3	..
	10	32	4	3	at	3	7	6	..

		weys.	*qr.*	*bus.*		£.	*s.*	*d.*	
I 5	1	5	4	6	at	14	10	6	per wey.
	2	6	1	3	at	15	7	6	..
	3	3	0	7	at	3	3	4	per qr.
	4	4	2	5	at	3	5	8	..
	5	7	4	6	at	3	17	6	..
	6	8	2	3	at	16	4	4	per wey.
	7	0	4	7	at	15	8	6	..
	8	9	3	5	at	16	10	0	..
	9	8	2	4	at	15	8	8	..
	10	0	3	6	at	14	12	9	..

Find the cost of

		chal.	*bus.*	*pks.*		*s.*	*d.*	
J 5	1	10	12	3	at	12	6	per chal.
	2	12	28	1	at	9	3	..
	3	9	17	2	at	11	8	..
	4	11	25	3	at	13	7½	..

	chal.	*bus.*	*pks.*		*s.*	*d.*	
	5 16	33	1	at	15	9	per chal.
	6 17	28	1	at	14	10	..
	7 21	16	2	at	18	3	..
	8 32	24	3	at	17	6	..
	9 45	19	1	at	16	8½	..
	10 52	11	3	at	15	6	..

	rms.	*qrs.*	*shts.*		*s.*	*d.*	
K	5 1	11	14	10	at	10	6	per ream.
	2	12	18	16	at	11	8	..
	3	14	10	12		13	4	..
	4	15	9	6	at	13	10½	..
	5	18	15	16	at	14	2	..
	6	21	17	9	at	14	10½	..
	7	26	13	6	at	15	8	..
	8	35	15	8	at	16	9½	..
	9	38	11	18	at	17	8	..
	10	39	14	12	at	18	10	..

Find the amount for

	yrs.	*mths.*	*da.*		£.	*s.*	*d.*	
L	5 1	2	10	25	at	22	10	6	per year.
	2	3	7	16	at	26	11	3	..
	3	4	9	23	at	28	12	9	..
	4	5	11	25	at	30	7	6	..
	5	6	8	15	at	32	18	3	..
	6	7	4	20	at	35	10	0	..
	7	8	7	24	at	42	8	6	..
	8	9	10	18	at	46	11	10	..
	9	10	6	20	at	52	10	6	..
	10	12	3	15	at	56	16	8	..

	mths.	*wks.*	*da.*		£.	*s.*	*d.*	
M	5 1	8	3	6	at	7	5	6	per month.
	2	11	2	3	at	8	11	8	..
	3	23	1	5	at	6	8	9	..
	4	35	3	4	at	5	17	4	..
	5	29	2	3	at	9	8	6	..
	6	7	1	5	at	25	10	6	per year.
	7	8	3	6	at	46	12	3	..
	8	*9*	2	3	at	52	10	6	..
	9	*11*	2	5	at	64	7	9	..
	10	*12*	3	6	at	75	15	6	..

	yrs.	*mths.*	*wks.*		£.	*s.*	*d.*	
№ 1	5	12	3	at	2	5	6	per month.
2	6	11	1	at	3	8	4	..
3	7	8	2	at	4	12	3	..
4	8	9	2	at	4	15	6	..
5	9	10	3	at	5	10	6	..
6	10	11	2	at	46	11	6	per year.
7	11	9	1	at	52	10	0	..
8	12	7	3	at	64	17	9	..
9	13	3	2	at	75	0	0	..
10	13	10	1	at	84	10	6	..

	days.	*hrs.*	*min.*		*s.*	*d.*	
O 5 1	7	11	40	at	4	6	per day.
2	26	9	55	at	7	8	..
3	37	10	50	at	9	6½	..
4	46	11	35	at	10	8¾	..
5	59	8	45	at	11	6	..
6	67	3	25	at	12	7	..
7	77	4	20	at	13	4¾	..
8	99	10	55	at	15	9	..
9	97	7	40	at	16	6½	..
10	99	11	55	at	17	6	..

MISCELLANEOUS EXAMPLES.

A 1 What cost 3007 bags of potatoes at 7s. 9¾d., per bag?

2 How much must be paid to 837 men for a month's wages, at £2 11s. 11¼d. each?

3 A person pays 12s. 10¼d. in the pound on £3450, what are his assets worth?

4 What must be paid for 7 mths. 3 wks. 6 days lodging, at £3 12s. 6d. per month?

5 13 tons 17 cwt. 3 qrs. 26 lbs. at £13 13s. 7¾d. per ton.

6 Find the value of seven pieces of silver, each 3 oz. 17 dwts, 20 grs. at £3 1s. 10$\frac{7}{12}$d. per lb.

7 Bought 29 qrs. 5 bus. 3 pks. of grain, at £1 17s. 6d. per quarter, and sold it at a profit of 1s. 3d. per bushel; how much was the whole sold for?

8 How much would £3 13s. 6d. per day amount to in a lunar month, taking the exact length at 29 days 12 hrs. *44 min. 30 sec.*?

9 Find the rent of 57 acres 3r. 30p., at £1 17s. 6d. per acre.

10 Find the cost of 6 cu. yds. 1 ft. 216 in. of timber, at 6s. 10½d. per foot.

B 1 The rupee at Calcutta is worth 1s. 11⅜d., at Bombay 2s. 3d.; what is the value of 24158 of the former, and 18746 of the latter in pounds sterling?

2 A gold box weighed 8 oz. 15 dwts. 15 grs., find its value at £4 5s. 6d. per ounce.

3 What will 7s. 2½d. per day amount to in a solar year, taking its length at 365 days 5 hrs. 48 min. 48 seconds?

4 Find the dividend on £2510 15s. 6d., at 11s. 8d. in the £.

5 Find the expense of repairing a road 9 m. 7 fur. 35 p. in length, at £3 15s. 8d. per mile.

6 What cost 4103 cwt. of currants, at £3 3s. 10d. per cwt.?

7 What cost the painting of a room 9 ft. 6 in. high, 15 ft. 9 in. wide, and 18 ft. 3 in. long, at 2s. 3½d. per sq. yd.?

8 What is the tax on £1250, at 2s. 3½d. in the pound?

9 Find the cost of a pack of wool weighing 2 cwt. 3 qrs. 17 lbs., at £1 5s. 8d. per tod of 28 lbs.

10 A house contains 15 windows, and each window 16 squares, measuring 21 in. by 16 each; what will be the expense of glazing the whole at 10½d. per sq. foot?

C 1 Required the cost of 4167¾ yards, at £1 13s. 6¾d. per yard.

2 Find the number of square yds. in a room 32 feet 6 in. long and 25 feet 9 in. broad, and the price of carpeting it, at 5s. 6d. per yard.

3 Find the price of 7 tons 16 cwt. 3 qrs. 21 lbs., at £7 19s. 11½d. per cwt.

4 What will be the rent of a farm of 255 acres 2 roods 25 perches, at £1 11s. 6d. per acre?

5 Find the amount of a man's wages for a year, at 1s. 11½d. per day.

6 Find the price of 2103¾ cwt., at £3 13s. 8½d. per cwt.

7 What is the sum paid for a debt of £1226 10s., at 10s. 10½d. in the pound?

8 Find the cost of 27 qrs. 7 bus. 3 pks. of wheat, at 6s. 9½d. per bushel.

9 What is the value of a piece of ground 45 feet 9 in. by 37 feet 6 in., at 1s. 2d. per square foot?

10 *What* will a block of stone measuring 10 feet 6 in. long,

3 feet 9 in. broad, and 2 feet 3 in. thick, cost, at 5s. 10½d. per solid foot?

D 1 A. owes B. for 27 yds. 3 qrs. 3 nls. of cloth, at £1 3s. 6d. per yard, and B. owes A. for 61 Eng. ells. 3 qrs. 2 nls. of silk, at 7s. 6d. per Eng. ell; how much is the balance and in whose favour?

2 What cost 3 tuns 3 hhds. 24 gals. of wine, at £125 15s. 0d. per tun.?

3 Bought 95 tons 13 cwt. 3 qrs. 24 lbs. of iron, at £18 3s. 4d. per ton, what did the whole cost?

4 Find the rent for 18 yrs. 12 mths. 3 wks. 4 days, at £19 14s. 4d. per year.

5 A chest of tea weighs 2 cwt. 3 qrs. 15 lbs., what did it cost, at 5s. 4d. per lb.?

6 Find the expense of cutting 103 cu. yds. 19 ft. 1485 in., at £2 17s. 8d. per cubic yard.

7 Bought 237 yards of cloth, at 13s. 6d. per yard and retailed the same, at 15s. 9d. per yard; what was the gain?

8 Sold 57 qrs. 7 bus. 3 pks. of wheat, at £1 17s. 6d. per quarter, what did I get for the whole?

9 If for £1050 per annum, 2s. 3d. in the pound is paid for tax; what is the net annual income?

10 How many acres will produce grass sufficient for 144 horses, if 4 a. 2 r. 36 p. will produce sufficient for each horse annually?

E 1 If a suit of clothes can be made from 4 yds. 3 qrs. 3 n. of cloth, and the average price of the cloth per yard be 17s. 6d.; what will be the cost of 26 suits?

2 Find the expense of repairing 7 m. 7 fur. 35 p. of a road, at £3 17s. 4½d. per mile.

3 What cost 8075¾ yards, at £1 3s. 9d. per yard?

4 What cost 53 doz. 5 bottles of wine, at £2 2s. per dozen?

5 11 mths. 3 wks. 6 days, at £33 6s. 8d. per year.

6 What cost 4107 lbs. of sugar, at 7 7/16d. per lb.?

7 At £1 16s. 6d. per cwt., what cost 7 tons 16 cwt. 2 qrs. 10 lbs.?

8 A person owes £856 10s. 0d., what can he pay, at 13s. 4d. in the pound?

9 33 bar. 20 gals. of ale, at 1s. 4¾d. per gallon.

10 *Bought 19 pieces* of silver, each 7 oz. 13 dwts. 20 grs., at *5s. 6d.* per oz., what was the cost of the whole?

F 1 If 1 lb. cost 5s. 11½d., what cost 8017¼ lbs. ?

2 Find the expense of travelling 53 m. 3 fur. 150 yds., at 1s. 3½d. per mile.

3 How much is due for 3 yrs. 7 mths. 25 days, at a salary of £150 per year?

4 23 tons 17 cwt. 3 qrs. of coals, at 14s. 10½d. per ton.

5 Find the cost of 835$\frac{4}{7}$ cwt., at £1 19s. 11¼d. per cwt.

6 What is the dividend on £2025, at 12s. 9d. in the pound?

7 What will be the cost of glazing 7 windows, each containing 12 panes, and each pane measuring 1 ft. 9 in. by 1 ft. 3 in., at 9s. 3½d. per square foot?

8 3 lbs. 11 oz. 16 dwts. 13½ grs., at £3 per ounce.

9 1 acre 3 r. 30 p. 27½ yds. of building land, at £350 per acre.

10 A person pays 7d. in the pound for income tax, out of a salary of 250*l.*, what is his net income?

G 1 3705 pairs of shoes, at 7s. 11½d. per pair.

2 21 sq. yds. 4 ft. 100 in., at 3s. 3½d. per square foot.

3 A piece of gold weighed 7 oz. 15 dwts. 15 grs., find the weight of 375 pieces.

4 A beam of timber contains 65 ft. 9 in. 6 pa.; how many feet are contained in 49 such beams?

5 If I receive £1 11s. 6d. daily, what is my yearly income?

6 Sold two pieces of cloth, measuring respectively 35 yds. 3 qrs. 1 n., and 37 yds. 1 qr. 3 n.; the price of the first was 13s. 8½d., and of the second 15s. 11¼d. per yard; find the cost of the whole.

7 7 tuns 2 hhds. 48 gals. of ale, at £2 18s. 6d. per hogshead.

8 3 lasts 8 qrs. 5 bus. 3 pks., at £1 3s. 9d. per quarter.

9 39 cwt. 1 qr. 16 lbs. 12 oz., at £40 10s. 6d. per ton.

10 8016¼ yards, at £1 5s. 8½d. per yard.

H 1 At 17s. 4½d. per day, how much for three years?

2 I employ 237 men, at 13s. 11½d. each, weekly; what do I pay them in the year?

3 What cost 101 acres 3 r. 37 p., at £8 16s. 10d. per acre?

4 Bought a silver tea pot weighing 2 lbs. 5oz. 11 dwts. 8 grs., at 7s. 6d. per ounce, what did it cost?

5 53 gross 7 doz. of corks, at 4s. 2½d. per gross.

6 29 score and 14 sheep, at £35 17s. 10d. per score.

7 What cost 19 doz. 11 lbs. of candles, at 7s. 6d. per doz. lbs.?

8 *How much* may a person spend in 365 days, at 2¼d. per

hour, allowing 12 hours to a day?

9 If my daily expenses are 11s. 11¾d., how much do I lay by yearly out of £250?

10 Bought 3 loads 3 qrs. 5 bus. of grain, at 15s. 9½d. per qr., and 1 load 4 qrs. 6 bus., at £1 19s. 8d. per qr.; find the cost of the whole.

I 1 8 cwt. 3 qrs. 16 lbs. 12⅞ oz., at £7 9s. 4d. per cwt.

2 Find the rent for 2 yrs. 8 mths. 27 d., at £1 $15\frac{5}{19}$s. per mth.

3 A bag of potatoes weighs 80 lbs., find the cost of 100 bags, at 7s. 7½d. per cwt.

4 11 tons 15 cwt. 3 qrs. 14 lbs. of hay, at 7⅞d. per stone.

5 Bought a hogshead of sugar, weighing 13 cwt. 1 qr. 14 lbs., at 6¼d. per lb., and another weighing 12 cwt. 0 qrs. 20 lbs., at £2 16s. 0d. per cwt., what did the whole cost?

6 Out of 6 hhds. 50 gals. 1 qt. of wine, 3 hhds, 56 gals. 2 qts. were sold; what is the remainder worth, at £1 7s. 6d. per gallon?

7 Find the cost of 23 sheets of wool, each weighing 240 lbs., at 8s. 2½d. per stone.

8 If I pay 13s. 6d. per week for lodgings, how much do they let for during 287 days?

9 What cost a block of wood 6 ft. 6 in. in length, 1 ft. 9 in. in breadth, and 2 ft. 3 in. in thickness, at 1s. 4½d. per cu. ft.?

10 Find the cost of a cistern weighing 9 cwt. 0 qrs. 16 lbs., at £2 3s. 6d. per cwt.; allowing £1 7s. 6d. per cwt. for the old one, which weighs 6 cwt. 3 qrs. 20 lbs.

J 1 7001¼¼ yards, at £1 1s. 9⅝d. per yard.

2 14 tons 13 cwt. 3 qrs. 17 lbs., at £9 per cwt.

3 3 lbs. 4 oz. 14 dwts. 14 grs., at £2 10s. 0d. per ounce.

4 8753 gallons, at £1 $11\frac{7}{19}$s. per gallon.

5 6 lasts 9 qrs. 6 bus. 2 pks., at £2 10s. 8d. per quarter.

6 19 stones 12 lbs. 14 oz. of sugar, at 8s. 3½d. per stone.

7 39 yds. 3 qrs. 3⅜ n., at £1 8s. 6d. per yard.

8 2017⅜ cwt. of cheese, at £3 5s. 4d. per cwt.

9 Find the expense of travelling 125 m. 6 fur. 130 yds., at 9¼¼d. per mile.

10 What cost the keep of a horse for 7 yrs. 7 mths. 3 wks. 4 days, at £22 15s. 0d. per year?

PROPORTION.

No. 17.

A 1 If 4 books cost 6s., what will 10 books cost?

2 What cost 3 gallons of rum, if 21 gallons cost 18*l.* 5s. 5½d.?

3 Paid 2*l.* 8s. 5½d. for 3 yards of cloth, what cost 24 yards?

4 If 7 men earn 4*l.* 12s. 7½d., how much will 28 men earn?

5 If 10 lbs. of tea cost 1*l.* 16s. 8d., what will 25 lbs. cost?

6 If 36 tons of coal cost 27*l.* 18s. 0d., what will 27 tons cost?

7 Bought 8 bus. of wheat for 2*l.* 6s. 0d., what cost 32 bushels?

8 If 1 cwt. of sugar cost 3 guineas, what are 7 lbs. worth?

9 Paid 2*l.* 0s. 3d. for 7 bags of potatoes, what cost 42 bags?

10 If 14 lbs. of rice cost 4s. 1d., what will 1 cwt. cost?

B 1 How many yards of silk may be bought for 18*l.* 17s. 1d., if 3 yards cost 1*l.* 2s. 7½d.?

2 How many pounds of tea may be bought for 6*l.* 13s. 4d., if 1*l.* 3s. 4d. be given for 7 lbs.?

3 What cost 39 yards of silk, at 3*l.* 16s. 7d. for 13 yards?

4 If 3*l.* 16s. 5d. be given for 1 cwt. of sugar, what cost 20 lbs.?

5 How many yards of muslin may be bought for 63*l.* 10s. 9d., at 1*l.* 12s. 7d. for 13 yards?

6 If 3 yards 3 qrs. of cloth cost 1*l.* 12s. 9d., what cost 35 English ells?

7 If 485*l.* 8s. 0d. will gain 24*l.* 5s. 6d, in 12 months; in what time will 768*l.* 11s. 0d. gain the same?

8 What cost 1 cwt. 3 qrs. 16 lbs. of tea, at 13 lbs. for 7s. 3½d.?

9 What cost 307 yds. 3 qrs. 2 n., if 7 yds. 1 qr. 1 n. cost 1*l.* 16s. 6¾d.?

10 If 17½ lbs. of sugar cost 6s. 6½d., what cost 13 cwt. 1 qr. 11 lbs.?

C 1 If the carriage of 20 cwt. for 60 miles cost 4*l.* 8s. 6d., what would be the charge for 150 miles?

2 How many yards of cotton 3 qrs. wide, will line 16½ yds. of cloth, 1 yd. 2 qrs. wide?

3 What weight of tea may be bought for 21*l.*, if 1 cwt. 3 qrs. 18 lbs. cost 42*l.* 16s. 0d.?

4 How many yards of carpet 1 yard wide, will cover a floor 18 feet long and 16 feet wide?

5 If a person spend 1*l.* 11s. 6d. per day, and lays up yearly 150*l.*; what is his annual income?

6 What cost 1 cwt. 1 qr. 16 lbs. of cheese, at 11s. 4d. for 17 lbs.?

7 If 5 English ells cost 3*l.* 10s. 10d., how many yards may be bought for 53*l.* 2s. 6d.?

8 If 3*l.* 10s. 3d. be the interest of 70*l.* 11s. 6d. for 10 months; what principal will gain 8*l.* 12s. 2d. in the same time?

9 If 57 men can build a house in 100 days, how many men would be required to build it 20 days?

10 Bought 2 cwt. 3 qrs. 11 lbs. of tea, at 6s. 8d. per lb., and sold it, at 7s. 2d. per lb.; what was the gain?

D 1 Laid out 47*l.* 9s. 4½d. for iron, at the rate of 2*l.* 5s. 2½d. for 1 cwt. 1 qr. 15 lbs.; how many cwt. had I?

2 What will 14 dozen 5 pairs of stockings cost, if 7 pairs cost 2*l.* 10s. 9d.?

3 How many casks of raisins, each 3 cwt., can I buy for 73*l.* 10s. 0d., at 8*l.* 3s. 4d. for 5 cwt.?

4 How many tons of coal may be bought for 20*l.*, at the rate of 15s. for 1 ton 7 cwt.?

5 Find the price of 3 bus. 3 pks. of malt, if 42 guineas be given for 84 bushels?

6 How many cwt. of coffee may be bought for 68*l.* 13s. 4d. if 23½ lbs. cost 1*l.* 19s. 2d.?

7 A person owes 2500*l.*; deducting expenses, his assets are worth 937*l.* 10s. 0d.; what could he pay in the pound?

8 If 500*l.* gain 10*l.* 10s. 0d. in 9 months, what sum will gain 27*l.* 10s. 0d. in the same time?

9 Two gardens are equal, one measures 135 yards long and 72 broad, the other is 120 yards long; how broad is it?

10 How much income tax must I pay upon 557*l.* 10s. 0d., at 7d. in the pound?

E 1 The expenses of a parish are 254*l.* 10s. 10½d., and the rental 3054*l.* 10s. 6d.; how much in the pound must be levied to pay it?

2 If 3*l.* 15s. 6d. be the interest upon 150*l.* 12s. 6d. for 8 months, what will be the interest upon 903*l.* 15s. 0d. for the same time?

3 What must I pay upon 1050*l.*, at 2s. 9d. in the pound?

4 Lent 313*l.* 13s. 4d. for 6 months; how long ought 235*l.* 5s. to be lent me in return?

5 *How much* may I spend in 30 days out of an annual

income of 352*l.* 13s. 4d.; if through the year I lay by weekly 1*l.* 3s. 4d.?

6 Find the value of 13 pieces of cloth, each 28 yds. 3 qrs., at 7*l.* 11s. 8d. for 21 Flemish ells 2 qrs.?

7 If 24 acres can be mowed in 9 days by 8 men, how many will 22 men mow in the same time?

8 If I gained 1¼d. per lb. on sugar, how much did I gain upon 7 cwt. 26 lbs.?

9 How many yards of drugget, 3½ yards wide, will cover a floor 50 yards by 35?

10 How many pieces of paper, of 12 yards in a piece, and 21 inches wide, will cover the walls of a room 115½ feet round and 18 feet high?

F 1 How many lbs. of coffee, at 1s. 8d. per lb., are equal in value to 100 lbs. of tea, at 5s. 4d. per lb.?

2 Bought 9 cwt. 3 qrs. 11 lbs. of cheese for 34*l.* 9s. 4½d. and sold it again for 39*l.* 1s. 3½d., what was the gain per cwt.

3 If I buy 200 yards of cloth at the rate of 3*l.* 13s. 1½d. for 7½ yards, and sell it again at 6*l.* 6s. 8d. for 7 English ells 3 qrs.; how much do I gain?

4 How many cwt. of currants may be bought for 27*l.* 4s. 8¼d., if 11 lbs. cost 4s. 9¾d.?

5 How many gallons of rum may be bought for 100*l.*, if 7½ gals. cost 4*l* 13s. 9d.?

6 How many yards of cloth may be bought for 54*l.*, at 3 Eng. ells 2 qrs. for 3*l.* 7s. 6d.?

7 How many yds. of calico 1¼ yds. wide, will line 175 yds. damask ¾ yd. wide, and what will it cost at 7¼d. per yd.?

8 Lost by the sale of 3 cwt. 1 qr. 16 lbs. of coffee, 11¼d. upon every 7½ lbs.; how much did I lose upon the whole?

9 Find the value of 6 chests of tea, each 3 qrs. 14 lbs., at the rate of 2*l.* 3s. 10½d. for 9¾ lbs.

10 If 2 qrs. 7 lbs. be carried 120 miles for 15s., how far might 13 cwt. 2 qrs. be carried for the same money?

G 1 Lent 500*l.* for 5 months, what sum lent for 11 months would repay the loan?

2 Exchanged 37 yards of cloth, for 13¼ cwt. of sugar, worth 6½d. per lb.; what was the price of the cloth per yard?

3 Gave 345 gallons of brandy, for 488 gallons of rum, worth 13*s.* 4*d.* per gal.; required the price per gal. of the brandy.

4 If 3*l.* 17s. 10½d. be gained by 537*l.* 11s. 3d. in 2 months ; how much would gain 10 guineas in the same time?

5 Paid 32*l.* 10s. 5d. for income tax, upon an income of 111*l.*; how much is that in the pound?

6 Exchanged 458 yards of cloth, at 5s. 8½d. per yard for silk, at 7s. 2d.; how many yards of silk had I?

7 If 205 yards of cloth cost me 176*l.* 10s. 8d., at what price per yard shall I gain upon the whole 13*l.* 7s. 6d.?

8 What must be given for 7 cwt. 3 qrs. 16 lbs. of sugar, at 67*l.* 13s. 4d. per ton?

9 What is the cost of 84 cwt. 3 qrs. 16 lbs. of coffee, at the rate of 11*l.* 3s. 6d. for 3 qrs. 27½ lbs.?

10 Bought 210 yards of cloth for 197*l.* 10s. 6d., but 25 yards were damaged; how must I sell the remainder per Eng. ell, so as to gain 12*l.* 7s. 6d. upon the whole?

H 1 How many yards of paper 21 inches wide, will cover the walls of a room 108 feet round, and 3½ yards high?

2 If the penny loaf weighs 6 oz. 15 drs., when wheat is at 7s. 6d.; what ought it to weigh when wheat is at 5s. 3d. per bushel?

3 How many pounds of sugar, at 8¼d. per lb., are equal in value to 104 lbs. of tea, at 8s. 3d. per lb.?

4 Gave 150*l.* for 750 yards of cloth, how must it be sold per English ell so as to lose 22*l.* 10s. 0d. by it?

5 A person lays by 45 guineas yearly, out of an annual income of 230*l.* 10s. 6d.; how much does he spend daily?

6 What cost 11 pieces of cambric, each 12½ yards, at 11s. 9d. per Flemish ell?

7 How many yards of calico 3 qrs. wide, will line 50 yards of cloth, 1¼ yards wide?

8 Required the height of a tower which gives a shadow 25 yards long, when a staff 3 feet long gives a shadow of 4 feet 9 inches.

9 How many yards of carpet ¾ of a yard wide, will cover a floor 22 feet by 16?

10 How much, at 7s. 6d. in the pound, was paid upon a debt of 585*l.* 7s. 6d.?

I 1 If a person spend 3*l.* 17s. 6½d. in 3½ days, and lays by at the year's end 250*l.* 10s. 6d.; what is his yearly income?

2 *Two fields are* equal, one measures 585 yards long and

270 broad, the other 155 yards broad; how long is it?

3 If 301*l.* 5s. 0d. gain 7*l.* 11s. 0d. in 7 months; how much will gain 11*l.* 6s. 6d. in the same time?

4 If the tax upon a house rated at 75 guineas be 12*l.* 12s. 8½d., what would it be upon one rated at 50*l*?

5 If I pay 7*l.* 6s. 8d. for income tax yearly, at 7d. in the 1*l.*; what is my income?

6 Exchanged 1 cwt. of tea, worth 4s. 6d. per lb., for coffee, worth 1s. 8d. per lb, how much coffee did I receive?

7 Gave 75 yards of cloth, worth 6s. 8d. per yard, for 195 yards of linen, what was the linen worth per yard?

8 What is the worth of 27 packs of wool, each 240 lbs., at 2*l.* 11s. 6d. per tod of 28 lbs.?

9 What quantity of silk may be bought for 50*l.*, at the rate of 3*l.* 19s. 4d. for 7¼ yards.?

10 What principal will gain 21*l.* 6s. 8d. in 7 months, if 116*l.* 8s. 4d. will gain 10*l.* in the same time?

J 1 If the carriage of 2 cwt. 3qrs. for 75 miles be 10s. 11d.; what would be the charge for 1 ton 5 cwt.?

2 Bought 7 pieces of linen, each containing 26½ yards, for 16*l.* 15s., for how much must I sell 9 Eng. ells, so as to gain upon the whole 1*l.* 15s. 5d?

3 What cost 67 cwt. 3 qrs., at 11*l.* 11s. 8½d. for 1 cwt. 1 qr. 27¼ lbs.?

4 A room is 17 feet by 13½, how many yds. of carpet ¾ yd. wide and 5s. 9d. per yard, will it take, and what will it cost?

5 What cost 35 lbs. 10 oz. 12 dwts. 14 grs., if 3½ lbs. be worth 58*l.* 18s. 5¾d.?

6 What weight of sugar, at 7¾d. per lb., ought I to receive for 1 cwt. of tea, at 7s. 6d. per lb?

7 If 22 persons spend 17*l.* 11s. 6d. in 9 days, how much would 54 persons spend in the same time?

8 Bought 705 yards of silk velvet for 504*l.* 10s. 6d., of which 33 yards were damaged; how must I sell the remainder per 3½ yards, to lose only 12*l.* 7s. 6d. upon the whole?

9 Find the value of 107 Eng. ells, at the rate of 7*l.* 3s. 7¼d. for 12¼ yards.

10 If the shadow of a steeple measure 105 yards, and that of a *stick* 4½ feet high, 15 yards, required the height of the *steeple*.

K 1 If the 4d. loaf weigh 2½ lbs., when wheat is 3*l.* per quarter; what should it weigh when wheat is 1*l.* 3s. 4d.?

2 If 3 qrs. 16 lbs. cost 8*l.* 10s. 8½d., what cost 15 cwt.

3 If 8 yards cost 20*l.* 16s. 8¼d., what cost 13 pieces, each 17 Eng. ells 3 qrs. 1n.?

4 If 3 qrs. cost 4*l.* 10s. 8d., what cost 8 cwt. 1 qr. 19 lbs.?

5 If 19¾ lbs. cost 1*l.* 18s. 10d., how many cwt. for 37*l.* 8s.?

6 How many pockets of hops, of 2 cwt. 3 qrs. 19 lbs. each, can I buy for 273*l.* 5s., if 6 cwt. 2 qrs 19 lbs. cost 46*l.* 19s. 6d.?

7 How much may a man spend dai y out of an annual income of 586*l.* 10s., if through the year he lays by weekly 3*l.* 3s.?

8 Bought 26¼ cwt. of cheese for 74*l.* 4s., and sold it at 7¾d. per lb., required the gain per cwt.

9 If 17 men earn 27*l.* 16s. 8d., how much would 35men earn?

10 Find the value of 7 pieces of cloth, each containing 37 yards, 3 qrs., at 3*l.* 15s. 8d. for 5 Eng. ells.

L 1 The proportion of the buying and selling prices of an article are as 13 : 20; find how much profit is made upon a purchase of 150*l.*

2 How much property tax must I pay upon 350*l.* 11s. 2d., at 7d. in the pound?

3 If 7 cwt. 3 qrs. 24 lbs. of coffee be bought for 40*l.*, and sold again for 50*l.* 10s. 6d.; what is the gain per cwt.?

4 If 43 dozen cost 18*l.* 10s. 9½d., what cost 7½ dozen?

5 How many English ells may be bought for 101 guineas; if 2*l.* 16s. 9½d. be given for 6¾ yards?

6 If 4*l.* 11s. 8d. will buy 3 cwt. 1 qr. 11 lbs., what weight may be bought for 130 guineas?

7 If 8*l.* 11s. 10½d. be given for 3 cwt. 2 qrs. 16 lbs., what is the worth of 13 pieces, each weighing 4 cwt. 2 qrs. 18 lbs.?

8 How many gallons of wine may be bought for 687*l.* 13s. 10d.; if 27¼ gallons cost 42*l.* 18s. 6d.?

9 If 17½ lbs. cost 3s. 7½d., what cost 3 tons 17 cwt.?

10 If 3 Flemish ells cost 41*l.* 9s. 10d., what cost 18¾ yards?

M1 If 18 men could dig a trench in 22 days, in what time could 42 men do it?

2 How many yards at 3s. 9¼d. per yard., must be given for 137 yards, at 5s. 8½d. per yard?

3 How much tea, at 7s. 6d. per lb., must be given for 30 lbs., *at 10s. 3d.* per lb.?

4 If 43¼ yards cost 169*l.* 10s. 8½d., what cost 13¾ yards?

5 If 89¾ yards cost 89*l.* 11s. 10½d., what cost 9 pieces, each measuring 17 English ells 3 qrs.?

6 If I gain 10*l.* 11s. 6d. upon the sale of 3 cwt. 1 qr., how much should I gain upon 16 cwt. 1 qr. 19¼ lbs.?

7 If tea cost 7s. 8d. per lb., how much must I sell 1 cwt. for to gain 5 guineas?

8 Bought cheese at 6¾d., per lb., and sold it at 10½d.; how much did I gain upon 2 cwt. 1 qr. 11 lbs. 14 oz.?

9 Laid out 100*l.* for old iron, at the rate of 7½d. for 2¼ lbs., how many cwt. had I?

10 Bought 17 cwt. of soap for 87*l.* 10s., for how much must I sell 3 cwt. 1 qr. 19¼ lbs., so as to gain 20 guineas on the whole?

N 1 A wheel 10½ feet in circumference, makes 26 revolutions in 30 seconds, at what rate per hour does it move?

2 If a person walk 30 miles in 8 hours 15 minutes, at what rate per hour does he walk?

3 A person borrowed 100 sacks of flour, when the price was 3 guineas, how many sacks should he return when the price is 3*l.*?

4 If 1500 men have provisions for 7 months, how many men must depart that the same provisions may last 12 mths.?

5 If I walk a journey in 21 days, by walking 10 hours a day; in what time could I do it, by walking 7 hours a day?

6 Gave 91*l.* 13s. 4d. for 275 yards of cloth, for how much must I sell 7 Eng. ells to gain 20*l.* 0s. 8d. upon the whole?

7 If 450*l.* gain 16*l.* 17s. 6d. in 9 months, how much will 1090*l* 5s. gain in the same time?

8 If 8 persons earn 45*l.* 10s. 6d. in 12 days, in what time will they earn 136*l.* 11s. 6d.?

9 What weight of currants, at 7¾d. per lb., must be given for 2 cwt. 1 qr. 27 lbs. of sugar, at 11½d. per lb?

10 How many coins, each 4s. 6d., are equal in value to 1944 coins, each 7s. 3½d.?

O 1 Find the value of 19¼ lbs. of tea, at the rate of 93*l.* 10s. 8d. for 3 cwt. 1 qr.

2 If 8 cwt. 1 qr. 19 lbs. cost 21 guineas, how many cwt. may be bought for 376 guineas?

3 *If 83 yards* cost 100 guineas, how many English ells may *be bought* for 32*l.* 11s. 8d.?

4 A vessel sails at the rate of 85 miles in 10 hours; in what time will she make a voyage of 7000 miles?

5 The floors of two rooms contain an equal number of square feet, the one is 60 feet by 35, the other 42 feet in breadth, what is its length?

6 Bought 53 chests of tea, each weighing 3 qrs. 19 lbs., for 1455*l.* 14s. 8d.; required the cost of 17¼ lbs.

7 If I lend a person 300*l.* for 8 months, how long ought he to lend me 200*l.*?

8 Bought 4 tons 9 cwt. of coals, for 3*l.* 6s. 2½d., what weight may be bought for 26*l.* 9s. 6d.?

9 How many dollars, each 4s. 6d., are equal in value to 375 pieces, each 7s. 6d.?

10 The expenses of a parish are 135*l.* 10s. 6d., at 1s. 3d. in the pound; what was the whole rental?

P 1 If a coach fare for 15 miles be 3s. 6d., how much ought it to be for 130 miles at the same rate?

2 If an acre be 220 yards long, the breadth will be 22 yards; but if the breadth of an acre be 50 yards, what is the length?

3 Bought 124 gallons of brandy, for 135*l.* 3s. 4d.; what profit will be made by selling it at 17s. 6d. for 3 quarts?

4 If I borrow 373*l.* 17s. 6d. for 10 months; how much must I lend in return for 18 months?

5 If 35 yards of cloth cost 13*l.* 2s. 6d.; how many English ells may be bought for 30*l.*?

6 How many yards of silk, at 4s. 3d., per yard, must be given for 63 yards of satin, at 7s. 9d. per yard?

7 If a loaf of bread cost 4d., when wheat is at 50s. a quarter; what will it cost when it is at 43s. 9d.?

8 If I pay yearly 18*l.* 16s. 10d. income tax, at 7d. in the pound, what is my income?

9 I wish to lay by yearly 137*l.* 5s. 11d., out of an income of 455*l.* 10s. 6d.; how much may I spend weekly?

10 What cost 13 packs of wool, each 2 cwt. 1 qr. 19 lbs., at the rate of 21*l.* 10s. for 3 cwt. 17 lbs.?

Q 1 A man working 10 hours a day, does a piece of work in 8½ days; how many hours a day must he work, to do it in 7 days?

2 If 550*l.* 10s. 6d. gain 25*l.* 12s. in 10 months, how much *will gain* 45*l.* in the same time?

3 A bankrupt owing 6700*l.*, pays 13s. 4d. in the pound; what are his effects worth ?

4 How many yards of carpet 1¼ yds. wide, will cover a floor 22 ft. by 16; and what is the cost at 4s. 7½d. per yard?

5 If a racing boat gain 1½ yards in every 143 yards upon her competitor, how many yards will she gain in 3¼ miles ?

6 Exchanged 63 yards of cambric, at 8s. per yard, for 576 yards of cotton; what did the cotton cost per yard ?

7 The expenses of a parish are 192*l.* 6s. 8½d. and the rental 3185*l*; how much in the pound must be levied to pay it ?

8 How many gals. of wine, at 1*l.* 12s. 6d. per gal., should be exchanged for 88 gals. of rum, at 17s. 6d. per gallon ?

9 How many dollars, each 4s. 6d., are equal in value to 54 nobles, each 6s. 8d. ?

10 If a loaf weighs 3 lbs., when flour is 4s. 5d. per stone; what would flour be per stone, when the loaf weighs 5lbs.?

R 1 If 3½ lbs. of hops, cost 9s. 8½d.; what cost 17 ton 11 cwt. ?

2 If a man walk 105 miles in 3 days, of 10 hours each; how many days of the same length, would he be in walking 2205 miles ?

3 If 27 men build a house in 72 days, how many men will build a similar one in 18 days. ?

4 What must be given for 7 cwt. 3 qrs. 16 lbs. of sugar, at 67*l.* 13s. 4d. per ton?

5 How many boxes of raisins, each 2 qrs. 16 lbs., can I buy for 154*l.* 10s., at 11*l.* 13s. 4d, for 5 cwt. ?

6 Bought 13 cwt. 1 qr. 16 lbs. of sugar for 30*l.* 1s. 3d., and sold it, at 7½d. per lb.; how much was gained upon the whole ?

7 Exchanged 1 cwt. 3 qrs. 10 lbs. of tea, worth 6s. 8d. per lb., for coffee, worth 1s. 8d.; what weight of coffee had I ?

8 If a person buy 180 yds., at 6s. for 5 yds., and 180 yds. at 5s. for 6 yards; how much does he pay for the whole ?

9 A person sells goods by commission of 7½d. in the pound; what is his gain on 7854*l.* 16s. 9d. ?

10 A man gives 27*l.* 15s. 8d. for 57 Eng. ells of silk, and sells at 5*l.* 10s. loss in all; what is the selling price per yd.?

S 1 What length of stuff 3¾ in. broad, will make a sq. foot ?

2 The shadow of a tree is 89 ft. 7 in. long, and that of a stick 4 ft. 10 in.; if the height of the stick be 6 ft. 3 *in., what is* that of the tree ?

3 If 80 loaves, at 9d. each, can be made from a sack of flour, what will be the price of a loaf, if 120 are made from the same quantity?

4 The papering of a room, 10½ ft. high and 20 yds. round, costs 1*l.* 2s. 6d.; what will a room 9 ft. high and 63 ft. round cost?

5 Bought 250 gallons of oil for 168*l.* 7s. 6d.; but 36 gallons being damaged, at what rate per gallon must the remainder be sold so as neither to gain nor lose?

6 How many acres of land, each worth 56*l.* 10s., can be obtained in exchange for 375 acres, each worth 23*l.* 5s.?

7 A tap discharging 5 gallons in 3 minutes, empties a cistern in 2 hrs. 20 min.; how many gallons does the cistern contain?

8 A piece of cloth, at 8s. 6d. per yard costs 15*l.* 15s., what will a similar piece cost at 18s. 3d. per English ell?

9 A person invests 2000*l.* in railway shares at 75½, and sells them again at 91¼; what does he gain?

10 What quantity of water must I add to a hogshead of spirit, which costs 16s. per gal., so as to reduce the price to 12s. per gallon?

T 1 A roof 32½ feet by 18¼ is to be covered with lead weighing 8 lbs. per square foot; what would it cost at the rate of 1*l.* 8s. for 1½ cwt.?

2 A manufacturer gave 30*l.* for wool, and 20*l.* to make it into cloth; he sold the cloth at 7s. 9d. per yd., and gained 23*l.* 12s. 6d. by the whole; how many yards had he?

3 A person paid 67*l.* 14s. 6d. for 63 gals. of brandy, to which he added 7 gals. of water; at how much per gal. must he sell the mixture to gain 15*l.* 8s. on the whole?

4 Of how many lbs. of sugar does a person defraud his customers, in retailing 2 cwt., if he uses a false weight of 15¼ oz. for a pound?

5 How many pieces of silk, each 21 yards, may be bought for 120*l.*, at 8s. 4d. per English ell?

6 A man bought 387 yards of cloth, and having sold it at the rate of 67½ yards for 19*l.* 7s. 6d. gained 20 guineas; what did it cost him?

7 A person sold 240 gals. of wine, at 18s. 9d. per gal., of *how much* in money did he defraud his customers, by *allowing only* 7½ pints to the gallon?

8 A person bought 588 gals. of brandy, at 64*l.* 11s. 6d. per hhd., of which 126 gals. were lost; he then added 100 gals. of water to the remainder: what must he charge per gal. for this mixture to gain 71*l.* 14s. upon the whole?

9 Bought at Jamaica 850 gals. of rum for 110*l.*, freight and other expenses came to 15*l.*, duty 225*l.* 10s. 6d., cellarage and porterage 10*l.*: what must 54 gallons be sold for to gain 150*l.* by the whole?

10 A person owes 768*l.* 11s. 8d., but can only pay 480*l.* 7s. 3½d.; what will be the dividend, and how much shall I receive for my debt of 276*l.* 11s. 6d.?

U 1 What cost 76⅞ yds. of cloth, if 9 yds. cost 7*l.* 16s. 11¼d.?

2 If 8⅛ yds of silk cost 7*l.* 11s. 8d., what cost 33⅞ yds.?

3 If 2⅜ cwt. cost 22*l.* 8s., what cost 5¼ lbs.?

4 If ⅜ of an Eng. ell cost $\frac{7}{10}$ of a pound, what cost ⅞ of a yd.?

5 If ⅞ of a ship cost 2500*l.*, what is the worth of $\frac{7}{11}$ of the same?

6 If 21 $\frac{7}{8}$ cwt. be carried 80 miles for 2*l.* 10s., how far should 49 cwt. be carried for the same sum?

7 If the 3d. loaf weigh 9⅜ oz., when flour is 35s. the sack, what would it weigh when flour is 60s. a sack?

8 If 34¼ lbs. of cheese cost 1*l.*, what will ⅜ of ⅞ of 3½ of 20lbs. cost?

9 If $\frac{8}{10}$ of an estate be worth 1500*l.*, what will be the worth of $\frac{8}{17}$ of the same?

10 A person left 4360*l.* to be divided between two persons in the ratio of 5¾ : 7⅛; what is the share of each?

V 1 In what time can a man mow 6½ acres, if he can mow 3141⅜ square yards in 5½ hours?

2 The lb. avoirdupois contains 7000 grains, and the lb. troy 5760 grains; how many lbs. avoirdupois are equivalent to 21⅞ lbs. troy?

3 In what time will a person, walking at the rate of 3½ miles per hour, travel 53⅜ miles?

4 Bought ⅝ of a mine, and sold ⅜ of my share for 750*l.*, what was the whole mine worth?

5 If 2¼ Eng. ells cost 15s., what cost 35⅞ yards?

6 If 3⅜ lbs. of tea cost $\frac{8}{10}$ of a £., how many lbs. may be bought for 11½½*l.*?

V If 15⅞ oz. of tea cost 5s. $9\frac{5}{10}$d., what cost ⅞ of a cwt.?

8 How much in length of stuff $8\frac{5}{11}$ inches broad will make a square foot?

9 What cost 5½ pieces of satin, each 25⅞ yds,; if 2*l.* 6s. 8d. be given for 5⅝ Eng. ells.?

10 A person's expenses average $8\frac{1}{2}$*l.* in every $5\frac{3}{4}$ days; he gives away ¼ of ⅞ of ⅗ of his yearly income, which is 1000*l.*; what does he save in the year?

W1 The flash of a cannon was seen $6\frac{9}{10}$ seconds before the report was heard; how far is the cannon distant, the velocity of sound being 1142 feet per second?

2 If I lay out 1130*l.* in shares at 94⅛, and sell again at 85⅞; how much do I lose?

3 A watch gains 11⅝ minutes in 24 hours, while another loses 9⅝ minutes in the same time; if both be set right at noon on Monday, what will be the difference of time between them at midnight on the following Thursday?

4 Bought 125⅞ yds. of cloth at 9⅞s. per yard, and 125⅝ yds. at 12⅞s. per yard, and sold the whole at the rate of 9⅛ yds. for 5⅞*l.*; did I gain or lose, and how much?

5 Find the height of a building which projects a shadow $254\frac{7}{11}$ feet long, if a stick of 3½ feet perpendicular height casts a shadow of $4\frac{7}{11}$ feet, in length.

* 6 How many yards may be bought for 12*l.* 12s., if 7¾ yds. cost 19s. 4½d.?

7 If 1⅝ lbs. cost 7s. 7d., what cost 27½ lbs.?

8 If 5½ Eng. ells cost 1⅞*l.*, what cost 34.375 yards?

9 Find the cost of 33.875 yds. of cloth, at the rate of 8.625 yds. for 7*l.* 11s. 8d.

10 Bought 15⅝ cwt. of sugar, at 2*l.* 16s. per cwt., and sold it at 2¼ lbs. for 1s. 5½d.; what was the gain?

X1 What cost 15 cwt. 2 qrs. 18 lbs. of tea, at 22*l.* 8s. per cwt.?

2 Required the worth of 17⅛ tons of old iron, at 9s. 7¾d. per cwt.

3 Bought 47 yds. of cloth for $35\frac{3}{16}$*l.*; how much must it be sold per Eng. ell to gain $15\frac{3}{8}$*l.* upon the whole?

4 If 400*l.* gain 11*l.* 9s. 6d. in 7 mths., how much will 250½*l.* gain in the same time?

* The following twenty-five questions in Proportion, are to be worked by Decimals.

5 How many yards of silk may be bought for 20¾*l.*, if 3 Eng. ells cost 3¼*l.*?

6 If I spend 3¾*l.* in 3 days, how much will it amount to in a year?

7 If my house rented at 50*l.* pays a tax of 7.5125*l.*; how much will a house rented at 75½*l.* pay?

8 A person's yearly income is 650*l.*, and he spends daily 1.175*l.*; how much will he have saved at the year's end?

9 If 876.525*l.* gain 24*l.* 6*s.* 11½d. in 8 mths., how much will gain 50*l.* in the same time?

10 If an estate be worth 19843½*l.* a year, and the land tax 3*s.* 10½d. in the £.; what is the net annual income?

Y 1 If 3.8843750*l.* be given for 9 cwt. 1 qr. 13 lbs., how many cwt. may be bought for 608⅜*l.*?

2 If 17.5 lbs. cost 36¼¼*l.*, what cost 3 cwt. 3 qrs. 19½ lbs.?

3 What cost 13 hhds. of wine, if 17.75 gals. cost 16.525*l.*?

4 Bought tea at 7*s.* 4d. per lb., and sold it at 8*s.* 3d., how much did I gain upon the sale of 1⅛⅛ cwt.?

5 What is silver per oz., if 5⅛ lbs. cost 17*l.* 7*s.* 1d.?

6 If when flour is at 7*s.* 6d. per bushel, the 6d. loaf weighs 2.5 lbs.; how much ought it to weigh when flour is at 5*s.* 9d. per bushel?

7 Lent 235.25*l.* for 8 months, how long ought 313¾*l.* to be lent me in return?

8 Bought 55.75 yds. of silk ⅞ yd. wide; how many yards of muslin ¾ yd. wide will line it?

9 Bought 125 yds. of cloth for 109*l.* 7*s.* 6d., and I wish to gain 9*l.* 7*s.* 6d. by the sale of it, at what rate must I sell it per Eng. ell?

10 If 13 pieces, each 28 yds. 3 qrs. cost 174⅛*l.*, what cost 21 Flemish ells 2 qrs. at the same rate?

SIMPLE INTEREST.

Find the Interest and Amount of the undermentioned sums for the given time and at the given rate per cent. per annum.

	Interest of £.	s.	d.	yrs.	£.
A 1	235	16	8	for 1	at 5 p.c.
2	310	10	5	.. 1 ..	4 ..
3	455	8	4	.. 1 ..	3 ..
4	621	5	0	.. 1 ..	2½ ..
5	133	5	7½	.. 1 ..	6 ..
6	165	0	0	.. 3 ..	4½ ..
7	785	12	9	.. 4 ..	5½ ..
8	846	15	0	.. 8 ..	4¾ ..
9	1805	10	0	..10 ..	3⅛ ..
10	1000	0	0	..11¼ ..	4⅛ ..
B 1	580	12	6	.. 9 ..	5 ..
2	674	15	0	.. 8½ ..	6½ ..
3	745	6	8	.. 7⅜ ..	4¼ ..
4	2405	13	4	.. 6¼ ..	3¾ ..
5	2500	10	6	.. 4¾ ..	5½ ..

	Amount of £.	s.	d.	yrs.	£.
6	450	3	4	.. 5 ..	4 p.c.
7	875	10	6	.. 8 ..	3½ ..
8	1050	12	6	.. 6 ..	4¼ ..
9	2450	6	8	.. 7 ..	5½ ..
10	1725	12	3	.. 9 ..	6 ..
C 1	250	15	6	.. 7 ..	3½ ..
2	870	8	4	.. 8 ..	3⅛ ..
3	2476	5	0	.. 7⅛ ..	3⅛ ..
4	1500	0	0	.. 6¾ ..	5¾ ..
5	570	10	0	.. 12 ..	4⅛ ..
6	375	12	0	.. 5 ..	5¼ ..
7	910	16	8	.. 9⅛ ..	5⅛ ..
8	569	5	5	.. 4⅛ ..	3⅛ ..
9	765	0	0	.. 8⅛ ..	5⅛ ..
10	2000	0	0	.. 3⅛ ..	3⅛ ..

	Interest of £.	s.	d.	yrs.mo.	£.
D 1	524	13	4	for 1 7	at 5p.c.
2	850	12	6	.. 4 10	..4 ..
3	855	15	0	.. 5 11	..5 ..
4	1045	13	4	.. 5 3	..4¼ ..
5	555	13	4	..10 5⅞	..3½ ..
6	745	12	6	.. 3 9	..4½ ..
7	850	10	0	.. 7 5	..5¼ ..
8	645	12	4	.. 6 8	..5⅜ ..
9	555	3	6	.. 4 11	..6⅛ ..
10	875	10	6	.. 5 9¾	..5½ ..

	Amount of £.	s.	d.	yrs.mo.	£.
E 1	464	3	4	for 2 5	at 4½ ..
2	702	0	0	.. 3 5	..3½ ..
3	960	16	8	.. 6 8	..3½ ..
4	2500	0	0	.. 8 11	..5¾ ..
5	680	15	0	.. 7 4⅛	..5⅜ ..
6	558	12	6	.. 9 10	..4¾ ..
7	705	3	4	..11 11	..5½ ..
8	925	12	6	.. 8 9½	..6½ ..
9	1445	8	6	.. 7 7½	..4⅜ ..
10	2450	0	0	.. 9 0⅜	..5⅛ ..

	Interest of £.	s.	d.	yrs.wk.	£.
F 1	755	6	8	for 1 39	at 5p.c.
2	835	13	4	.. 5 43	..3½ ..
3	860	0	0	.. 7 30	..2¾ ..
4	750	10	6	.. 4 17	..6 ..
5	2024	13	4	.. 9 39	..5⅛ ..

	Amount of £.	s.	d.	yrs.wk.	£.
G 1	584	12	6	for 4 21	at 3p.c.
2	654	10	0	.. 8 19	..4¼ ..
3	1450	6	8	.. 5 15	..5½ ..
4	935	15	6	.. 6 13	..4¾ ..
5	1024	6	8	.. 3 14	..4¼ ..

	Interest of									Amount of								
	£.	s.	d.	yrs.	wk.	£.				£.	s.	d.	yrs.	wk.	£.			
F 6	1450	8	6	for 8	43	at 4½	p.c.	G 6	450	12	6	for 7	17	at 5½	p.c.			
7	845	11	3	.. 6	34	.. 5¼	..	7	845	13	4	.. 9	39	.. 6	..			
8	742	10	6	.. 4	47	.. 6½	..	8	744	10	3	.. 6	30	.. 6½	..			
9	655	16	8	.. 8	17	.. 4¾	..	9	622	6	8	.. 8	43	.. 5⅞	..			
10	875	10	0	.. 9	13	.. 5⅜	..	10	1550	10	0	.. 9	34	.. 4⅝	..			
	Interest of									Amount of								
	£.	s.	d.	yrs.	da.	£.				£.	s.	d.	yrs.	da.	£.			
H 1	416	17	6	for 1	127	at 6	p.c.	I 1	863	6	8	for 2	250	at 5½	p.c.			
2	546	13	4	.. 3	73	.. 3¾	..	2	341	13	4	.. 4	315	.. 4½	..			
3	566	0	0	.. 5	120	.. 6¼	..	3	329	15	0	.. 6	235	.. 5	..			
4	845	10	6	.. 6	215	.. 5	..	4	450	12	6	.. 7	75	.. 4¾	..			
5	460	8	4	.. 7	110	.. 5½	..	5	535	6	8	.. 8	147	.. 3½	..			
6	545	6	8	.. 8	50	.. 6¼	..	6	642	7	6	.. 9	255	.. 5¾	..			
7	675	3	4	.. 9	215	.. 4¾	..	7	740	13	4	.. 5	320	.. 6¼	..			
8	742	13	4	.. 4	175	.. 5¼	..	8	852	6	8	.. 6	245	.. 5¼	..			
9	845	0	0	.. 5	240	.. 4⅝	..	9	945	0	0	.. 7	195	.. 5⅝	..			
10	955	10	6	.. 6	275	.. 5⅝	..	10	950	10	0	.. 8	220	.. 4⅝	..			

J 1 In what time will 75*l.* 12s. 6d. amount to 99*l.* 16s. 6d., at 4 per cent. per annum?

2 In what time will 250*l.* 13s. 4d. amount to 294*l.* 10s. 8d., at 5 per cent. per annum?

3 In what time will 365*l.* amount to 471*l.* 15s. 3d., at 3¼ per cent. per annum?

4 In what time will 448*l.* 6s. 8d. amount to 554*l.* 5s. 0½d., at 4½ per cent. per annum?

5 In what time will the interest on 684*l.* 7s. 6d. amount to 16*l.* 17s. 6d., at 6 per cent. per annum?

6 In what time will 875*l.* 12s. 6d. amount to 1006*l.* 19s. 4½d. at 3¾ per cent. per annum?

7 In what time will 1000*l.* amount to 1500*l.*, at 4 per cent. per annum?

8 In what time will the interest on 750*l.* 10s. amount to 712*l.* 19s. 6d., at 4¾ per cent. per annum?

9 In what time will 1050*l.* amount to 1487*l.* 7s. 9¾d., at 5⅝ per cent. per annum?

10 In what time will 645*l.* 15s. amount to 960*l.* 11s. 0¾d., at 4¼ *per cent.* per annum?

K 1 What sum will amount to 104*l.* 2s. 6d., in 4 years, at 4½ per cent. per annum?

2 What sum will amount to 118*l.* 7s. 6d. in 3½ years, at 5¼ per cent. per annum?

3 What sum will amount to 1310*l.* 14s. in 6 years, at 4¼ per cent. per annum?

4 What sum will amount to 308*l.* 3s. 1½d. in 7 years, at 4¼ per cent. per annum?

5 What sum will amount to 797*l.* 9s. 7d. in 7½ years, at 3½ per cent. per annum?

6 What sum will amount to 1383*l.* 15s. 11¼d. in 5¼ years, at 3½ per cent. per annum?

7 What sum will amount to 861*l.* 2s. 4½d. in 3¾ years, at 5½ per cent. per annum?

8 What sum will amount to 1157*l.* 7s. 4½d. in 4¼ years, at 4½ per cent. per annum?

9 What sum will amount to 1540*l.* 11s. in 5½ years, at 3½ per cent. per annum?

10 What sum will amount to 1292*l.* 6s. 4¼d. in 9½ years, at 5½ per cent. per annum?

L 1 At what rate per cent. will 152*l.* 10s. amount to 191*l.* 7s. 9d. in 6 years?

2 At what rate per cent. will 245*l.* amount to 311*l.* 3s. in 4½ years?

3 At what rate per cent. will 545*l.* 10s. amount to 695*l.* 10s. 3d. in 5 years?

4 At what rate per cent. will 827*l.* 10s. amount to 986*l.* 15s. 10½d. in 5½ years?

5 At what rate per cent. will 109*l.* 15s. 10d. amount to 277*l.* 17s. 3d. in 8 years?

6 At what rate per cent. will 755*l.* amount to 1132*l.* 10s. in 10 years?

7 At what rate per cent. will 652*l.* 12s. 6d. amount to 1131*l.* 4s. 4d. in 7¼ years?

8 At what rate per cent. will 425*l.* 7s. 6d. amount to 476*l.* 8s. 4½d. in 3 years?

9 At what rate per cent. will 844*l.* 16s. 8d. amount to 1098*l.* 5s. 8d. in 4 years?

10 At what rate per cent. will 650*l.* amount to 990*l.* 14s. 2d. in 9½ years?

M1 Find the amount on 545*l.* 12s. for 325 days, at 5½ per cent. per annum.

2 At what rate per cent. will 243*l.* double itself in 9 years?

3 In what time will 150*l.* double itself at 6⅔ per cent. per annum?

4 What is the interest on 847*l.* 7s. 6d. for 8 yrs. 3 mths. 20 days, at 4½ per cent.?

5 What sum in 7½ years, at 4¾ per cent., will amount to 949*l.* 7s. 6d.?

6 What will be in 9 years, at 5¼ per cent., the amount of 365*l.* 6s. 8d.?

7 How much will 756*l.* 13s. 4d. gain in 6 years 11 mths. at 3⅜ per cent.

8 At what rate per cent. will 352*l.* 10s. 6d., in 12 years, double itself?

9 Find the interest and amount of 1000*l.* for 2 yrs. 9 mths. 25 days, at 4¾ per cent.

* 10 What is the interest on 850*l.* from May 7th, to Dec. 20th, at 5¾ per cent.?

N 1 In what time will 610*l.* amount to 777*l.* 15s., at 5 per cent.?

2 What sum will amount to 651*l.* 1s. 10½d. in 3½ years, at 4½ per cent.?

3 At what rate per cent. will 610*l* 10s. in 2½ years amount to 671*l.* 11s.?

4 Find the interest on 445*l.* 10s. from March 15th, to Nov. 25th, at 4⅜ per cent.

5 Find the amount on 610*l.* 6s. 8d. for 7 yrs. 8 mths. 22½ da., at 5¼ per cent.

6 In what time will 1500*l.* treble itself, at 7½ per cent.?

7 What sum, at 5⅜ per cent. will amount in 6 years to 635*l.* 6s. 3d.?

8 At what rate per cent. will the interest on 690*l.* be 186*l.* 6s. in 6 years?

9 At what rate per cent. will the interest on 285*l.* in 4½ years, be 57*l.* 14s. 3d.?

10 What is the amount of 700*l.* 10s. 6d. for 3 yrs. 7 mths. 10 days, at 4½ per cent.?

O 1 In what time will 450*l.* amount to 600*l.* at 4 per cent.?

* In questions of this kind, the days of borrowing and repaying, are *together reckoned* as but one day.

2 Find the amount on 1050*l.* 16s. 8d., at 5¼ per cent., from January 20th, 1846, to December 8th, in the same year.

3 Find the interest on 2075*l.* at 6⅜ per cent., from May 10th, 1846, to March 25th, 1847.

4 What will be the interest on 1550*l.* 3s. 4d. for 7 yrs. 7 mths. 22½ days, at 4⅞ per cent.?

5 In what time time will 465*l.* 7s. 6d. amount to 480*l.* 0s. 9d. at 5 per cent.?

6 At what rate per cent. will 1793*l.* 15s. amount in 7 years to 2264*l.* 12s. 2¼d.?

7 What sum will amount to 1137*l.* 10s. in 2¾ years, at 5 per cent.?

8 What is the interest on 945*l.* 3s. 4d. at 4½ per cent., from June 20th, 1847, to April 25th, 1848?

9 Find the rate per cent. at which 750*l.* will double itself in 8 years.

10 At what rate per cent. will the interest on 307*l.* 10s. amount in 2¼ years to 38*l.* 1s. 0¾d.?

COMPOUND INTEREST.

Find the Interest and Amount of the undermentioned sums for the given time and at the given rate per cent. per annum.

	Interest of						Amount of					
	£.	s.	d.	yrs.	£.		£.	s.	d.	yrs,	£.	
A 1	166	13	4	for 3	at 5	p.c.	B 1 651	0	10	for 4	at 4	p.c.
2	833	6	8	.. 5	..5	..	2 933	6	8	.. 3	..2½	..
3	1562	10	0	.. 3	..4	..	3 666	13	4	.. 5	..5	..
4	2250	0	0	.. 2½	..5	..	4 1650	0	0	.. 3½	..6	..
5	1500	0	0	.. 4	..5	..	5 2034	10	1¼	.. 5	..4	..
6	813	16	0½	.. 4	..4	..	6 1333	6	8	.. 4	..2½	..
7	533	6	8	.. 4	..2½	..	7 1627	12	1	.. 4½	..4	..
8	1283	6	8	.. 3½	..6	..	8 1066	13	4	.. 3	..3¾	..
9	1220	14	0¾	.. 4½	..4	..	9 750	0	0	.. 3	..5½	..
10	279	0	0	.. 9	..3½	..	10 2175	0	0	.. 4	..5	..

C 1 What is the compound interest on 333*l.* 6s. 8d. for 4 years, at 5 per cent., the interest being paid half-yearly?

2 What sum will 500*l.* amount to in 2½ years, at 6 per cent., the interest being paid half-yearly?

3 What is the compound interest on 450*l.* 13s. 4d. for *6 years 6 months 15 days*, at 2¾ per cent?

4 What sum will 800*l.* amount to in 3 years 8 months 2 weeks, at 4½ per cent.?

5 What is the compound interest on 652*l.* 6s. 8d. for 3 years, at 4 per cent., the interest being paid half-yearly?

6 What sum will 562*l.* 10s. amount to in 3½ years, at 4½ per cent., the interest being paid half-yearly?

7 What is the compound interest on 1000*l.* for 2½ years, at 8 per cent., the interest being paid quarterly?

8 What sum will 1500*l.* amount to in 3 years, at 5 per cent., the interest being paid quarterly?

9 What is the compound interest on 545*l.* 10s., for 1½ years, at 6 per cent., the interest being paid quarterly?

10 What sum will 640*l.* 16s. 8d. amount to in 2 years, at 2½ per cent., the interest being paid quarterly?

D 1 Find the difference between the simple and compound interest on 208*l.* 6s. 8d., for 2 years, at 5 per cent.?

2 Find the difference between the simple and compound interest on 1460*l.* 18s. 9d., for 3 years, at 4 per cent.?

3 Find the difference between the simple and compound interest on 500*l.*, for 5 years, at 2½ per cent.?

4 If I lend 400*l.* for 5 years at compound interest, at the rate of 4½ per cent.; what would it amount to?

5 If I lend 750*l.* for 4½ years at compound interest, at the rate of 5 per cent.; what would be the amount?

6 A legacy of 310*l.* was left to a boy 12 years old and put out to use at compound interest, at the rate of 3½ per cent. till he was 21 years of age: how much had he then to receive?

7 What is the compound interest on 1273*l.* 6s. 8d. for 3¼ years at 6 per cent.?

8 What is the amount of 525*l.* in 3 years, at 2½ per cent., the interest being paid half-yearly?

9 What is the compound interest on 725*l.* for 2½ years, at 6 per cent., the interest being paid quarterly?

10 Find the difference between the simple and compound interest on 300*l.* for 7 years, at 3½ per cent.

E 1 What sum lent at compound interest, at the rate of 5 per cent., will amount to 173*l.* 12s. 10½d. in 3 years?

2 *What sum* lent at compound interest, at the rate of 4 per *cent., will* amount to 292*l.* 18s. 8d. in 3 years?

3 What sum lent at compound interest, at the rate of 5 per cent., will amount to 810*l.* 6*s.* 9*d.* in 4 years?

4 What sum lent at compound interest, at the rate of 4 per cent., will amount to 1904*l.* 1*s.* 4*d.* in 4 years?

5 What sum lent at compound interest, at the rate of 5 per cent., will amount to 1215*l.* 10*s.* 1¼*d.* in 4 years?

6 What sum lent at compound interest, at the rate of 5 per cent., will amount to 848*l.* 18*s.* 6*d.* in 3 years?

7 What principal lent at compound interest, at the rate of 4 per cent., will amount to 2050*l.* 10*s.* 8*d.* in 3 years?

8 What principal lent at compound interest, at the rate of 5 per cent., will amount to 4254*l.* 5*s.* 5¼*d.* in 5 years?

9 What principal lent at compound interest, at the rate of 4 per cent., will amount to 952*l.* 0*s.* 8*d.* in 4 years?

10 What principal lent at compound interest, at the rate of 4 per cent., will amount to 12376*l.* 8*s.* 8*d.* in 5 years?

ANNUITIES.

A 1 How much will an annuity of 75*l.* amount to in 8 years, at 5 per cent. compound interest?

2 What will an annuity of 60*l.* payable yearly, amount to in 12 years, at 4 per cent. compound interest?

3 To what sum will an annuity of 80*l.* for 14 years amount, improved at the rate of 5 per cent. compound interest?

4 What is the amount of an annuity of 150*l.*, to continue 4 years, at 5 per cent. compound interest?

5 If an annuity of 200*l.* be unpaid for 6 years, to what sum will it amount, at 4½ per cent. compound interest?

6 What is the amount of an annuity of 120*l.*, to continue 7 years, at 4 per cent. compound interest?

7 What is the amount of an annuity of 140*l.*, to continue 5 years, payable half-yearly, at 6 per cent. compound interest?

8 What will a yearly rent of 220*l.*, payable half-yearly, amount to in 4 years, at 5 per cent. compound interest?

9 To how much will an annuity of 40*l.* amount, which has remained unpaid for 15 years, at 3½ per cent. compound interest?

10 A person entitled to a pension of 60*l.* a year, allows it to remain for 12 years, at 4½ per cent. compound interest; *what will he* receive at the end of the given time?

B 1 What is the present worth of an annuity of 75*l.*, to continue 6 years, at 5 per cent.?

2 What sum may I give for 250*l.* per annum, to continue 5 years, at 4 per cent. compound interest?

3 A person pays another 1500*l.* by yearly payments, to continue 8 years; how much must he pay yearly, allowing 5 per cent. compound interest?

4 What is the present worth of 50*l.* per annum, for 12 years, at 3½ per cent. compound interest?

5 A person gives 2400*l.* for an annuity, to continue 20 years; how much is it, at 5 per cent. compound interest?

6 How much yearly, for 10 years, must I pay at 4½ per cent. compound interest, to discharge a debt of 800*l.*?

7 What sum paid down will secure an annual income of 120*l.*, for 15 years, allowing 4 per cent. compound interest?

8 If a person sink 3000*l.* for an annuity, to continue 25 years; what yearly sum will he receive, at 5 per cent. compound interest?

9 A farm is offered at 200*l.* yearly rent for 20 years, but the tenant offers 150*l.*; what sum must he pay down at once, that the owner of the farm may be no loser, allowing 5 per cent. compound interest?

10 A lease of a farm for 21 years is offered at 200*l.* yearly rental, with 350*l.* for possession; if this be laid on the rent, what would be the yearly rental, at 4 per cent. compound interest?

FREEHOLDS.

A 1 What must I give for a freehold, let for 24*5l.* a year, so as to have 7 per cent. for my money?

2 Find the value of a freehold, the annual rent of which is 749*l.* 18s. 6d., allowing money to be worth 5½ per cent.

3 What is the value of a perpetual annuity of 75*l.*, at the rate of 4½ per cent.?

4 A person gave 2000*l.* for a freehold, what must be the yearly rent to clear 6 per cent.?

5 The purchase of a freehold was 5500*l.*, what must be the yearly rent to clear 5½ per cent.?

6 *A person* paid 675*l.* for a perpetual annuity of 43*l.* 17s. 6d.; *what* rate of interest had he for his money?

7 A freehold farm, the rental of which was 225*l.* a year, was sold for 5400*l.*; what rate of interest had the purchaser for his money?

8 How many years' purchase should be given for freehold property, to clear 5½ per cent.?

9 A person bought freehold property and cleared 7½ per cent.; how many years' purchase was given, and how much would it bring if let at 50*l.* 15s. 6d. a year?

10 A freehold is sold at 13½ years' purchase; what rate per cent. has the buyer for his money?

LEASES.

A 1 How much ought to be given for the lease of a house of 21 years, of the clear annual rental of 60*l.*, to make 7 per cent. interest?

2 What is the lease of a farm of 75 years worth, at an annual rent of 145*l.*, interest being 6 per cent.?

3 How much money ought to be given for the lease of 55 years of a farm rented at 220*l.*, subject to the payment of a reserved rent of 75*l.* besides taxes and other expenses amounting to 45*l.* annually, allowing 6 per cent. to the purchaser for his money?

4 What ought to be given for the ground rent of a house of 20*l.* per annum, for 24 years, allowing 8 per cent.?

5 What is the worth of a lease of 66 years of an estate of 350*l.* per annum, interest being 8 per cent.?

6 Sold a lease of 50 years to run for 2000*l.*, what annual rent is that equivalent to, allowing 6 per cent.?

7 If I sell the lease of my house, which has 72 years to run, for 740*l.*; at what rent does the purchaser stand who has also a ground rent to pay of 6*l.* 10s. a year, allowing 8 per cent.?

8 I am asked 1150*l.* for a 40 years' lease, what annual rent is that equivalent to, allowing 7 per cent.?

9 The lease of a farm at the annual rent of 280*l.* sold for 3360*l.*, how many years' purchase was given for it?

10 The lease of a house which cost 600*l.* was let at the yearly rent of 35*l.*, how many years' purchase is it worth?

REVERSIONS.

A 1 What is the present worth of an annuity of 130*l.* to commence 8 years hence, and continue 15 years, at 4½ per cent. compound interest?

2 The reversion of a freehold estate of 500*l.* per annum will come into possession 7 years hence; what present money is it worth, at 5 per cent. compound interest?

3 What is the present value of 45 years' possession of an estate of 400*l.* a year, to begin at the expiration of 15 years; allowing interest at 3½ per cent. per annum?

4 How much must a person pay for an annuity of 175*l.*, to commence 7 years hence and to continue 33 years; allowing interest at 5 per cent. per annum?

5 What is the present worth of 36 years' possession of 245*l.* a year, to begin at the expiration of 14 years, interest being at 4 per cent. per annum.?

6 The reversion of a freehold estate, upon which there is an annuitant for 14 years, is bought for 800*l.*; compound interest being allowed at 4 per cent. per annum, what is the yearly rent?

7 A freehold was sold for 5500*l.* ready money; but possession is not to take place till ten years hence; now allowing the buyer 5 per cent. interest, what will be the yearly rent?

8 A freehold estate with possession 16 years hence, is bought for 4000*l.*; what is the yearly rent, allowing 5 per cent. on the purchase money?

9 If I sink 2350*l.* for an annual income to commence 10 years hence; what would be the amount of my income, interest being at 4½ per cent.?

10 A person wishes to secure an annuity to commence 8 years hence, and sinks 1800*l.*; what would be the amount of his income, interest at 3½ per cent?

COMMISSION.

Find the commission on the undermentioned sums, at the given rate per cent.

	£.	s.	d.	£.			£.	s.	d	s.	d.
A 1	983	10	10½	at 2 p.c.	C	1	2270	19	0½	at 12	6 p.c.
2	1090	2	1	.. 3 ..		2	452	6	8	.. 7	6 ..
3	795	10	9½	.. 4 ..		3	3500	0	0	.. 13	4 ..

	£.	s.	d.	£.		£.	s.	d.	s.	d.
A 4	1439	17	9	at 5 p.c.	C 4	1465	10	6	at 6	9 p.c.
5	606	5	0	.. $2\frac{1}{2}$ ..	5	2843	5	0	.. 7	3 ..
6	1309	19	0	.. $2\frac{3}{4}$ ..	6	2050	0	0	..14	6 ..
7	2080	0	0	.. $3\frac{1}{2}$ ..	7	1734	10	0	..18	4 ..
8	879	6	$1\frac{1}{4}$	.. $4\frac{1}{4}$ ..	8	845	9	4	..14	2 ..
9	633	6	8	.. $5\frac{7}{8}$ ..	9	755	13	4	..16	8 ..
10	436	17	9	.. $4\frac{3}{8}$ ..	10	940	3	4	..15	9 ..
B 1	375	0	0	.. $6\frac{1}{2}$ ..	D 1	2010	12	0	..13	6 ..
2	1090	0	0	.. $3\frac{7}{8}$ ..	2	3425	7	6	.. 5	6 ..
3	1187	3	$10\frac{1}{2}$	.. $8\frac{1}{3}$ ..	3	1048	10	0	..10	3 ..
4	1435	7	$11\frac{1}{2}$	.. $\frac{1}{4}$ ..	4	2705	5	0	..11	8 ..
5	1690	0	0	.. $\frac{1}{2}$ ..	5	888	13	6	..17	6 ..
6	3038	1	8	.. $\frac{3}{4}$ ..	6	950	6	8	..13	2 ..
7	3027	18	9	.. $\frac{5}{8}$ ..	7	4263	0	0	.. 9	9 ..
8	362	4	$4\frac{1}{2}$	.. $5\frac{5}{8}$ ..	8	3750	0	0	.. 8	4 ..
9	817	10	0	.. $3\frac{7}{8}$ ..	9	2634	16	8	..11	3 ..
10	3120	0	0	.. $5\frac{3}{8}$ ..	10	3950	13	4	..19	6 ..

E 1 Bought goods to the amount of 1350*l.*; what is the commission at $4\frac{1}{4}$ per cent.?

2 Sold to the amount of 850*l.*, paid wharfage 1*l.* 15s. 6d., and carriage 13s. 9d.; how much must I remit to my employer, if $3\frac{7}{8}$ be allowed for commission?

3 What will a banker's commission amount to on 20500*l.*, at $\frac{3}{8}$ per cent.?

4 An agent charges $4\frac{1}{2}$ per cent. commission and risk; his sales amount in a year to 20745*l.* 10s., and losses to 345*l.* 10s. 6d.; what is his net income, and how much must he remit to his employer?

5 Bought goods to the amount of 2450*l.*, and paid packing, &c., 22*l.* 6s. 8d., commission $3\frac{1}{4}$ per cent.; required the amount of the invoice.

6 An agent receives $4\frac{3}{8}$ per cent. for commission; what will he demand if he sells goods to the amount of 2850*l.*?

7 An agent shipped goods to the amount of 1445*l.* 13s. 4d., and paid for incidental expenses 27*l.* 14s. 6d.; commission $2\frac{5}{8}$ per cent.; what was the amount of the invoice?

8 An agent sold for his correspondents to the amount of 155400*l.* in one year, his clear gain he reckons at $\frac{5}{8}$ per cent.; what in all did he receive himself?

9 If I am allowed 5½ per cent. commission, guaranteeing debts to my employers, and effect sales to the amount of 15645*l.* 13s. 4d.: what will be my profit, losing by failures 475*l.*, and necessary expenses 135*l.* 6s. 8d.?

10 A salesman sells 850 loads of hay, at 4*l* 15s. per load, 545 loads of straw, at 2*l.* 3s. 6d. per load, 252 quarters of wheat, at 3*l.* 3s. per quarter, and 175 quarters of oats, at 1*l.* 17s. 6d. per quarter: what will his commission, at 1⅛ per cent. amount to?

BROKERAGE.

Find the Brokerage on the undermentioned sums, at the given rate per cent.

	£.	s.	d.	£.		£.	s.	d.	s.	d.
A 1	2450	12	6	at 2½ p.c.	C 1	1110	0	0	at 3	4 p.c.
2	1780	0	0	.. 3 ..	2	905	10	6	.. 5	6 ..
3	2745	6	8	.. 4¼ ..	3	2105	3	4	.. 7	6 ..
4	5000	0	0	.. 3½ ..	4	1855	13	4	.. 8	0 ..
5	782	13	4	.. 5 ..	5	1046	16	8	.. 9	3 ..
6	1406	8	6	.. 4½ ..	6	2411	10	0	.. 10	9 ..
7	2745	15	0	.. 5¼ ..	7	875	5	0	.. 11	2 ..
8	2125	0	0	.. 3¾ ..	8	1460	14	2	.. 12	6 ..
9	1075	16	8	.. ¼ ..	9	3000	0	0	.. 13	4 ..
10	4037	12	3	.. 4¾ ..	10	2805	10	6	.. 14	8 ..
B 1	5050	0	0	.. ½ ..	D 1	4090	12	6	.. 15	3 ..
2	2342	5	0	.. 2¾ ..	2	2840	0	0	.. 16	8 ..
3	4165	10	0	.. ⅜ ..	3	755	3	4	.. 17	6 ..
4	2418	15	6	.. 3⅞ ..	4	1010	0	0	.. 18	4 ..
5	3335	13	4	.. 4⅝ ..	5	2020	10	0	.. 19	9 ..
6	4000	0	0	.. 3⅛ ..	6	3702	16	8	.. 7	2 ..
7	847	15	6	.. 5⅛ ..	7	4355	12	0	.. 2	8 ..
8	1550	16	8	.. ⅞ ..	8	2410	0	0	.. 13	6 ..
9	950	0	0	.. 2$\frac{1}{10}$ ..	9	3724	14	0	.. 11	9 ..
10	3045	0	0	. 4$\frac{7}{8}$ ..	10	2406	5	0	.. 5	9 ..

E 1 What is the brokerage on 2445*l.*, at 2⅞ per cent.?

2 If a broker sells to the value of 2800*l.*, what will be the amount of his brokerage, at 17s. 6d. per cent.?

3 A broker effects a purchase to the value of 1750*l.*; how much will he be allowed, at 3½ per cent.?

4 *If a broker* sells to the value of 1020*l.* 15s. 8d., what is *his brokerage* at 11s. 3d. per cent.?

5 What is the brokerage on 2300*l.* at 8s. 6d. per cent.

6 What is the brokerage on 840*l.* 13s. 4d., at 3¼ per cent.?

7 If a broker sells to the value of 4550*l.*, what will his brokerage amount to, at 13s. 3d. per cent.?

8 Find the brokerage on 1180*l.* 15s. 6d., at ⅞ per cent.

9 What is the brokerage on 1500*l.*, at 1$\frac{1}{16}$ per cent.?

10 A broker effects a sale to the value of 1125*l.*; what is his allowance, at 14s. 2d. per cent.?

INSURANCE.

Find the premium on the undermentioned sums, at the given rate per cent.

	£.	s.	d.	£.			£.	s.	d.	£.	s.	d.	
A 1	1350	0	0	at 5½	p.c.	B 1	2144	12	4	at 2	2	0	p.c.
2	2242	10	0	.. 3¼	..	2	820	0	0	.. 0	4	9	..
3	1785	13	4	.. 4½	..	3	540	10	0	.. 1	7	3	..
4	1043	6	8	.. 2¾	..	4	3425	0	0	.. 0	3	9	..
5	2745	0	0	.. 4⅛	..	5	650	5	6	.. 3	3	0	..
6	3005	0	0	.. 2½	..	6	4040	0	0	.. 0	10	3	..
7	2410	0	0	.. 3⅜	..	7	1818	10	0	.. 0	8	2	..
8	845	12	4	.. 5¼	..	8	2405	0	0	.. 2	5	6	..
9	749	10	0	.. 3⅛	..	9	3700	0	0	.. 0	4	2	..
10	3050	0	0	.. 2$\frac{7}{16}$	..	10	4640	0	0	.. 0	17	3	..

C 1 A farmer insures 1000*l.* on his stock, at 2s. 3d. per cent. what is the annual payment?

2 What is the insurance on 550*l.* 15s. 6d., premium 7s. 6d. per cent.?

3 What must be paid for insuring 275*l.* on furniture, at 5s. 6d. per cent.?

4 What must be paid for insuring 1450*l.* on a ship, at 3s. 6d. per cent.?

5 What is the sum to be paid for insuring a vessel and cargo, worth 2850*l.*, at 2¾ per cent.?

6 What is the premium of insurance on 3500*l.*, at 2*l.* 13s. 6d. per cent.?

7 What would be the expense of insuring property worth 1250*l.*, at 3½ per cent.?

8 What is the expense of insuring stock worth 2450*l.*, at 2*l.* 12s. 6d. per cent.?

9 What is the expense of insuring property worth 3700*l.*, at 6*s.* 3*d.* per cent.?

10 What is the premium of insurance on 2040*l.* 13s. 4d., at 3*l.* 18s. 9d. per cent.?

D 1 What is the premium on a policy of 450*l.* upon a life, age 28, the rate being 2*l.* 8s. 7d. per cent.?

2 What is the premium on a policy of 1500*l.* upon the life of a person aged 35, at the rate of 2*l.* 16s. 11d. per cent.?

3 What is the annual expense of insuring 650*l.*, premium 4s. 6d., policy 2s. 6d., and duty 3s. per cent. each?

4 What is the annual expense of insuring 1200*l.*, premium 11s. 3d. per cent., policy 2s. 6d., and duty 3s. per cent.?

5 What is the premium on a policy of 850*l.* upon a life, age 40, at the rate of 3*l.* 4s. 7d. per cent.?

6 What premium must be paid for the insurance of buildings worth 1345*l.* 10s., at 2s. 8d. per cent.?

7 Insured 5000*l.*, premium $2\frac{1}{2}$, duty 3s., and policy 2s. 6d. per cent., with a return of 8 per cent. on the premium, required the expense of the same.

8 If I insure my house and goods for 1500*l.*, for which I pay a premium of $\frac{1}{10}$ per cent., and 3s. per cent. duty, what do I pay annually?

9 What premium must a person 32 years of age pay on a policy of 1000*l.*, at the rate of 2*l.* 13s. per cent.?

10 What is the expense of insuring 2500*l.* at a premium of $3\frac{1}{8}$, duty 3s., and policy 2s. 6d. per cent., so as to secure a return of 10 per cent. on the premium?

E 1 What sum insured, will recover 2500*l.*, premium 8*l.* 8s., policy 5s., and commission $\frac{1}{2}$ per cent.?

2 What sum insured, will recover 2450*l.* at $5\frac{1}{8}$ per cent.?

3 What sum insured at 5*l.* 5s. per cent., will recover 1750*l.*?

4 At 3*l.* 3s. per cent., what amount insured on a ship's cargo worth 750*l.*, will recover the full value.?

5 What sum paid for insuring property worth 730*l.*, will recover the full value at $6\frac{3}{8}$ per cent.?

6 What sum must be paid for insuring a house worth 625*l.* for $3\frac{1}{2}$ years, at $3\frac{1}{4}$ per cent.?

7 What sum must be insured at 7*l.* 7s. per cent., to recover 735*l.* 10s.?

8 What will be the expense of insuring 1725*l.* 12s., at a premium of 2*l.* 7s. 3d., duty 3s., and policy 2s. 6d. per *cent., so as* to have 6 per cent. returned on the *premium?*

9 What premium must a person 35 years of age pay on a policy of 875*l.*, at the rate of 2*l.* 16s. 11d. per cent.?

10 How much must be paid for insuring a ship's cargo, worth 2450*l.*, to recover its full value; insurance at 10$\frac{1}{8}$ per cent.?

DISCOUNT.

Find the Discount on the undermentioned sums, due at the times stated, and at the given rate per cent. per annum, and also the sum in ready money to be actually paid in each case.

	£.	s.	d.	mths.	£.			£.	s.	d.	yr.	mo.	£.	
A 1	1315	4	9	for 3	at 5	p.c.	C 1	640	0	0	for 1	5	at 4	p.c.
2	724	13	6	.. 4	.. 4	..	2	345	8	6	.. 2	7	..5$\frac{1}{2}$	..
3	937	14	10$\frac{1}{2}$	.. 5	.. 3	..	3	250	0	0	.. 3	8	..2$\frac{3}{4}$	..
4	1656	9	0	.. 6	..4$\frac{1}{2}$	..	4	763	12	6	.. 4	4	..3$\frac{1}{4}$	..
5	1250	0	2$\frac{1}{2}$	.. 7	..3$\frac{1}{2}$	..	5	2245	8	0	.. 2	11	..4$\frac{1}{8}$	..
6	1368	8	0	.. 8	..5$\frac{1}{4}$	..	6	4040	0	0	.. 1	5	..3$\frac{1}{4}$	..
7	393	10	9	.. 9	..4$\frac{3}{4}$	..	7	3842	3	6	.. 2	4	..4$\frac{7}{8}$	..
8	540	7	6	.. 10	..4$\frac{1}{4}$	..	8	2055	10	0	.. 3	7	..5$\frac{1}{8}$	..
9	680	0	0	.. 15	..3$\frac{1}{2}$	..	9	1111	13	4	.. 2	10	..4$\frac{3}{8}$	..
10	800	10	0	.. 18	..5$\frac{1}{4}$	..	10	2015	0	0	.. 4	7	..5$\frac{1}{8}$	..
B 1	742	12	6	.. 11	.. 4	..	D 1	536	15	0	.. 3	0	..5	..
2	1080	0	0	.. 14	.. 3	..	2	682	17	6	.. 2	5	..4$\frac{1}{4}$	..
3	1562	13	4	.. 16	..3$\frac{3}{4}$	..	3	856	3	4	..	11	..3$\frac{1}{2}$	..
4	875	0	0	.. 15	..4$\frac{1}{4}$	..	4	745	0	0	.. 1	8	..2$\frac{3}{4}$	..
5	2000	0	0	.. 17	..3$\frac{1}{2}$	..	5	442	14	8	.. 2	9	..3$\frac{3}{4}$	..
6	435	12	6	.. 2	..4$\frac{1}{2}$	..	6	387	12	0	..	10	..4$\frac{1}{2}$	..
7	387	13	4	.. 7	.. 5	..	7	650	0	0	.. 3	4	..5$\frac{1}{4}$	..
8	635	3	6	.. 8	..4$\frac{3}{4}$	..	8	422	10	0	.. 1	7	..4$\frac{3}{4}$	..
9	740	16	0	.. 10	..5$\frac{1}{2}$	..	9	275	15	6	..	8	..3$\frac{1}{8}$	..
10	835	6	6	.. 15	..3$\frac{1}{2}$	..	10	600	0	0	.. 2	11	..4$\frac{1}{8}$	..

E 1 What is the discount on 775*l.* 12s. 3d., due 5 months hence, at 4$\frac{1}{2}$ per cent. per annum?

2 What is the discount on 2500*l.*, due 11 months hence, at 5$\frac{1}{4}$ per cent. per annum?

3 What is the discount on 724*l.* 17s., due in 146 days, at 4 per cent. per annum?

4 What is the present worth of 510*l.*, due in 240 days, at 3$\frac{3}{4}$ per cent. per annum?

5 What is the present worth of 845*l.* 16s. 4d., due in 2 yrs. 8 *mths.*, at 4$\frac{1}{4}$ per cent. per annum?

6 What is the discount on 2000*l.*, due 245 days hence, at $5\frac{1}{2}$ per cent. per annum?

7 What is the present worth of 487*l.* 10s. 6d., due 175 days hence, at $3\frac{3}{4}$ per cent. per annum?

8 What is the discount on 900*l.*, due 4 years hence, at $4\frac{5}{8}$ per cent. per annum?

9 What is the present worth of 1500*l.*, due 250 days hence, at $5\frac{1}{8}$ per cent. per annum?

10 What is the discount on 1445*l.*, due 60 days hence, at $5\frac{1}{8}$ per cent. per annum?

F 1 What is the discount on 2015*l.* 10s., due 4 yrs. 7 mths. hence, at $3\frac{1}{12}$ per cent. per annum?

2 What is the present worth of 2500*l.*, due 75 days hence, at $4\frac{1}{2}$ per cent. per annum?

3 What is the present worth of 1735*l.*, due 11 mths. hence, at $5\frac{1}{2}$ per cent. per annum?

4 What is the discount on 1850*l.*, due 195 days hence, at $4\frac{1}{4}$ per cent. per annum?

5 What is the discount on 2235*l.* 12s., due 212 days hence, at $5\frac{1}{4}$ per cent. per annum?

6 What is the present worth of 837*l.* 16s. 4d., due 300 days hence, at 4 per cent. per annum?

7 What is the discount on 248*l.* 10s., due 55 days hence, at $4\frac{1}{2}$ per cent. per annum?

8 What is the discount on 330*l.* 15s. 6d., due 70 days hence, at $3\frac{3}{4}$ per cent. per annum?

9 What is the discount on 960*l.*, due 3 yrs. 7 mths. hence, at $5\frac{5}{8}$ per cent. per annum?

10 What is the present worth of 5000*l.*, due 2 yrs. 135 days hence, at $4\frac{1}{8}$ per cent. per annum?

G 1 What is the present worth of 250*l.*, payable one-half at 4 months, and the remainder at 6 months, discount at $5\frac{1}{2}$ per cent. per annum?

2 What is the present worth of 2160*l.*, payable $\frac{1}{3}$ at 3 mths., $\frac{1}{3}$ at 6 months, and $\frac{1}{3}$ at 9 months, discount $4\frac{1}{2}$ per cent. per annum?

3 What is the discount on 500*l.*, one moiety due in 6 months, and the other in 9 months, discount at 5 per cent. per annum?

4 What is the discount on 750*l.*, payable $\frac{1}{4}$ at 2 months, $\frac{1}{4}$

at 6 months, and ¼ at 10 months, discount 4 per cent. per annum?

Find what a banker would gain by discounting the following bills:—

	£.	s.	d.	Drawn.	Discounted.
G 5	921	12	0	March 8, at 10 months	Aug. 18, at 6 per cent.
6	403	4	0	Oct. 13, at 4 months	Dec. 5, at 4 per cent.
7	2022	0	0	May 18, at 7 months	Oct. 9, at 5½ per cent.
8	614	6	8	June 14, at 6 months	Aug. 19, at 3 per cent.
9	828	16	0	Mar. 10, at 10 months	June 8, at 6 per cent.
10	615	1	8	July 15, at 5 months	Sep. 19, at 4½ per cent.

BARTER.

A 1 How many lbs. of sugar at 6d. per lb., must I give for 45 lbs. of coffee at 2s. per lb.?

2 How much cheese at 2*l.* 10s. per cwt., must be given for 750 lbs. of bacon at 9d. per lb.?

3 How many reams of paper at 1*l.* 1s. per ream, must be given for 48 yards of cloth at 7s. 5½d. per yard?

4 How many yards of linen at 4s. 1d. per yard, must be given for 125 yards of cloth at 17s. 4½d. per yard?

5 How many gallons of rum at 18s. per gallon, must be given for 150 gallons of brandy at 1*l.* 4s. per gallon?

6 How many yards of silk velvet at 12s. 6d. per yard, besides 10 guineas in cash, must be given for 75 yards of satin at 9s. 6d. per yard?

7 Bought 24 quarters of wheat at 2*l.* 10s. per quarter; paid 12*l.* in cash, and the remainder in oats, worth 1*l.* 12s. per quarter, how many quarters of oats are required to make up the difference?

8 Bought 20¼ cwt. of sugar at 3*l.* 5s. 4d. per cwt., paid in cash 20*l.* 10s. 6d.; how much rice at 12s. 6d. per cwt. will supply the rest?

9 Sold goods for 320*l.*, and received 230*l.* 12s. 6d. ready money, and the balance in silk at 5s. 6d. per yard; how many yards of silk had I?

10 Bought 3 cwt. 3 qrs. 18 lbs. of coffee at 8 guineas per cwt. and paid ¾ in cash, and the remainder in candles at 5½d. per lb.; what money and how many lbs. of candles did I give?

B 1 Gave 14 pieces of cloth, each containing 27 yds. 3 qrs. at

5s. per yard, for 72 yards of silk velvet; what was the velvet rated at per yard?

2 Exchanged 120 gallons of wine at 2 guineas per gallon, for 112 barrels of ale; what was the price of the ale per barrel?

3 Bartered 14 cwt. 2 qrs. 12 lbs. of hops, worth 9*l.* 6s. 8d. per cwt.; for 409 bushels of malt; find the value of the malt per bushel.

4 Exchanged 1872 gross of steel pens for 819 gross of buttons, worth 2s. 8d. per gross; find the value of the pens per gross.

5 Gave 105¼ yards of cloth, at 12s. 6d. per yard, for 363 yards of linen; find the value of the linen per yard.

6 Cotton, at 8½d. per yard is bartered (with commission, &c.), at 10½d. for flannels at 1s. 8d.; what should the flannel be sold at?

7 Tea, worth 5s. 4d. per lb., but cleared at 6s., is bartered for coffee worth 1s. 6d. per lb.; what should be charged per lb. for the coffee?

8 Cloth, worth one guinea per yard, is bartered for linen, worth 2s. 8d. per ell ready money, but in bartering at 3s. 4d.; what ought to be charged per yard for the cloth?

9 Bartered books at 6s. each, valued at 5s. 3d. ready money, for paper at 1s. 6d. per quire; what was the ready money price of the paper per quire?

10 Hops, worth 4*l.* 5s. per cwt. ready money, were valued in barter at 4*l.* 15s.; how many gallons of ale worth 1s. 5d. per gallon ready money, should be given for 4¾ cwt. of hops, and what would be the price per gallon of the ale in barter?

C 1 Received 126 gallons of gin for 63 gallons of brandy, worth 24s. per gal.; what was the gin worth per gal.?

2 Bartered 16 quarters of wheat, at 3*l.* 4s. per quarter, for which I received 13*l.* 7s. 9d. in cash, and the remainder in barley worth 1*l.* 7s. 6d. per quarter; what was the quantity of barley?

3 What is cloth per yard, if I receive 27½ yards for 5 cwt. *of sugar, at* 3*l.* 9s. 0¾d. per cwt.?

4 *How many* yards of silk at 2s. 6d. a yard, together with

30 silk handkerchiefs at 3s. 9d. each, and 50 pairs of gloves at 2s. 6d. per pair, must be given for 130 yards of satin, at 10s. 6d. per yard?

5 Received in barter, a horse valued at 12*l.* 10s., a cow at 8 guineas, a sheep at 2 guineas, 150*l.* in cash, and 168 quarters of barley, for 108 quarters of wheat, at 3*l.* 6s. per quarter; what was the price of the barley per quarter?

6 Bartered coffee at 8d. per lb. profit, for tea, which cost 5s. per lb., bartered at 6s. 4d.; what did the coffee cost per lb.?

7 A butcher with whom I bartered beef for mutton, raised his mutton from 7s. 6d. to 9s. per stone of 14 lbs.; what ought I to have charged him for beef, which I sold for ready money at 8s. 9d. per stone?

8 Bartered 1540 lbs. of coffee at 1s. 6d. per lb., for goods, one sort at 8½d. and the other at 9½d. per lb., and received ⅔ in cash, and an equal weight of each sort of goods; how many pounds of each must I receive, and how much money?

9 Bartered 28700 bricks at 30s. per thousand, for equal quantities of coal at 8s., 10s. 6d., and 12s. 9d. per ton respectively, and received also 143*l.* in cash; how many tons of each sort of coal had I?

10 Exchanged 450 bags of potatoes at 5s. 4d. per bag, for 15 chests of oranges at 1*l.* 15s. 3d. per chest, 185 bushels of carrots at 2s. 3d. per bushel, ⅗ of the value of the potatoes in cash, and the remainder, deducting the above in nuts at 5s. per bag; how many bags of nuts did I receive?

PROFIT AND LOSS.

Find the gain or loss per cent. upon goods bought and sold, at the under-mentioned prices.

	Bought at. £.	s.	d.		Sold at. £.	s.	d.		Bought at. £.	s.	d.		Sold at. £.	s.	d.
A	1	5	0	and	6	0		B	1	18	9	and	1	1	9
	2	7	0	..	7	10½			2	1	5	8 ..	1	7	6
	3	9	4	..	8	9			3	4	8	..	5	10	
	4	1	11	3 ..	1	8	9		4	17	3	..	1	0	1½
	5	5	0	..	5	10			5	1	5	0 ..	1	6	10½

	Bought at.				Sold at.				Bought at.				Sold at.		
	£.	s.	d.		£.	s.	d.		£.	s.	d.		£.	s.	d.
A	6	2	5	10 ..	2	11	4	B	6		7	1 ..		8	1½
	7	1	7	11 ..	1	11	3		7	1	3	4 ..	1	1	10½
	8		8	3 ..		7	6		8	2	7	6 ..	1	13	3
	9	1	3	4 ..	1	1	5		9	1	14	6 ..	1	11	7½
	10		17	6 ..	1	3	1		10	2	7	3 ..	3	3	0

Find the selling prices of goods bought at the under-mentioned sums, so as to gain or lose the given rate per cent.

	Bought at.				To gain.			Bought at.				To lose.		
	£.	s.	d.		£.			£.	s.	d.		£.		
C	1	11	18	0 ..	12½	per cent.	D	1	6	6	0 ..	12½	per cent.	
	2	5	15	0 ..	15	..		2	9	7	6 ..	8	..	
	3	1	5	10 ..	7½	..		3	2	18	4 ..	5¼	..	
	4	23	6	8 ..	9¼	..		4	1	7	1 ..	6	..	
	5		18	9 ..	12	..		5	1	8	1½ ..	8½	..	
		8	6	8 ..	15½	..		6	1	9	2 ..	17½	..	
	7	3	13	3 ..	25	..		7		11	4¼ ..	10½	..	
	8	2	18	4 ..	8½	..		8	7	2	6 ..	15	..	
	9		14	2 ..	10	..		9	3	7	2¼ ..	7¼	..	
	10	4	11	8 ..	7¼	..		10	6	17	2½ ..	20	..	

Find the prime cost, or purchase money, of goods sold at the under-mentioned sums, at the given rate per cent. gained or lost.

	Sold at.				Gained.			Sold at.				Lost.		
	£.	s.	d.		£.			£.	s.	d.		£.		
E	1		7	4 and	10	per cent.	F	1	2	3	1 and	6	per cent.	
	2		11	3 ..	8	..		2	5	4	5 ..	10½	..	
	3	6	3	1 ..	5½	..		3	1	1	1 ..	8	..	
	4		18	9 ..	12½	..		4	2	15	6¾ ..	4¼	..	
	5	4	9	3 ..	6¼	..		5		17	7¼ ..	15½	..	
	6	2	11	9 ..	15	..		6	7	19	6 ..	20¼	..	
	7	1	15	8¼ ..	22½	..		7		4	1½ ..	12	..	
	8	5	1	11¼ ..	11¼	..		8	1	15	0¾ ..	6½	..	
	9	2	0	3¾ ..	7½	..		9		3	2¼ ..	10	..	
	10	3	3	1¼ ..	8¼	..		10	1	3	10 ..	12	..	

If the given rate per cent. be gained or lost by selling goods at the under-mentioned sums, what would be gained or lost per cent. if the selling price rise or fall as stated below?

	Sold for.			Gained.	Rise to.		
	£.	s.	d.	p.c.	£.	s.	d.
G 1	1	3	4	12	1	6	8
2		13	6	8		14	7½
3		6	8	15		9	0
4	1	7	6	10	1	8	9
5		9	4	28		10	2
6		3	8	32		4	1
7		12	3	10¼		14	6
8	1	8	4	36	1	10	0
9	1	15	0	20	1	17	6
10	1	2	11	25	1	7	6

	Sold for.			Lost.	Fall to.		
	£.	s.	d.	p.c.	£.	s.	d.
H 1		7	11	10		6	4
2	1	2	9	9	1	0	0
3		11	3	12		10	0
4	1	1	0	16		18	4
5	1	8	0	8	1	5	6
6		15	6	7		14	3
7		12	0	4		8	3
8		14	6	13		13	3
9	1	5	0	25	1	2	4
10	1	6	8	20	1	4	4

I 1 Bought cloth at 8s. 4d. per yard, what must I sell it at to clear 15 per cent.?

2 If 7 cwt. of sugar cost 21*l.* 4s. 8d., what rate per lb. will clear 30 per cent.?

3 By selling tea at 7s. 8d. per lb. I gained 15 per cent.; what did it cost per lb.?

4 By selling tea at 5s. 4d. per lb. I lost 10 per cent.; what did it cost per lb.?

5 Bought cloth at 3s. 4d. per yard and lost 12½ per cent.; what was it sold at per yard?

6 Bought at 2s. 3d. and sold at 2s. 7½d., what is the gain per cent. on the prime cost?

7 A person mixes together 64 lbs. of sugar at 4d., 52 lbs. at 6½d., 44 lbs. at 8d., and 36 lbs. at 9d. per lb., and sells the mixture at 8¼d. per lb., what does he gain per cent.?

8 What must I charge per yard for cloth, to get 7s. 6d. per yard, allowing 6¼ per cent. discount?

9 What must I charge per cwt. for coffee, which cost 8 guineas per cwt., to allow 16 per cent. discount?

10 What is the cost price of an article which, if sold for 7s. realizes a profit of 25 per cent.?

J 1 By selling an article for 15*l.* I lost 12½ per cent., what should I have sold it for to clear 5 per cent.?

2 *If 12 per cent.* be gained upon silk by selling it at 11s. 8d. 15

per yard; at what price per yard should it be sold to clear 25 per cent.?

3 By selling hops at 12 guineas per cwt., I lost 5½ per cent.; at how much per cwt. ought they to have been sold to clear 26 per cent.?

4 Bought 63 gallons of brandy at 1*l.* 4*s.* per gallon, but 15 gallons were lost; at what rate per gallon must I sell the remainder to gain 25 per cent. on the whole prime cost?

5 Bought 250 yards of cloth at 11*s.* 8*d.* per yard, at what selling price shall I lose 7½ per cent., and what will be the amount of the whole loss?

6 Sold a gold watch for 30*l.* 12*s.*, and lost 15 per cent., but I ought to have cleared 25 per cent.; how much under value was it sold for?

7 If lead, which cost 2*l.* 7*s.* 6*d.* per cwt., be sold at a loss of 10 per cent.; at what rate per cwt. is it sold?

8 Laid out 15*l.* in potatoes worth 3*s.* 9*d.* per bushel, part of which were spoiled, for the remainder at 40 per cent. profit, I received 18*l.*; how many bushels were damaged?

9 Sold gin at 13*s.* 9¾*d.* per gallon, and gained 10½ per cent., but I ought to have cleared 15 per cent.; how much was it sold for per gallon under value?

10 By selling wheat at 2*l.* 6*s.* 3*d.* per quarter, 7½ per cent. was lost; what should it have been sold for to clear 12½ per cent.?

PARTNERSHIP.

A 1 A and B bought a house for 350*l.*: A. pays 130*l.*, and B the rest: they sold it for 420*l.*; what should each receive?

2 A and B speculate and gain 240*l.*: A advanced 500*l.*, and B 700*l.*; what should each receive?

3 A and B as partners gained 1000*l.*: A advanced 2600*l.* and B 3400*l.*; how much ought each to receive?

4 A and B as partners lost 720*l.*: what must each lose, A having advanced 1800*l.* and B 2200*l.*?

5 A puts in 150*l.*, B 250*l.*, and C 350*l.*: they gained together 450*l.*; what is each man's gain?

6 Three persons together lost 700*l.*: A advanced 800*l.*, B 1200*l.*, and C 1500*l.*; what must each lose?

7 Divide 500*l.* amongst three persons, in proportion as 3, 5 and 7, respectively.

8 Divide 5*l.* amongst four persons, in proportion to their respective ages, which are 9, 11, 14, and 16 years.

9 A ship and cargo worth 10,000*l.* are insured for 2000*l.*, but the whole was lost: now $\frac{1}{10}$ belonged to A, $\frac{1}{8}$ to B, $\frac{1}{8}$ to C, and $\frac{1}{4}$ to D, how much must each lose?

10 A and B rent together a field for 21*l.*: A puts in 150 sheep, and B 200; what share should each pay?

B 1 A ship's cargo was 335 tuns of wine, of which 85 tuns belonged to A, 100 to B, and the rest to C: but 134 tuns were lost; what loss would each sustain?

2 A, B, and C purchase shares: A pays for 6 shares, B for 8, and C for 12: they gained 291*l.* 4*s.* by the purchase; what share of the gain belongs to each?

3 A and B rent a field for 20*l.*: A puts in 15 horses, and B 35 oxen; what should each pay, if a horse eat as much again as an ox?

4 A and B rent a field for 14*l.*: A puts in 20 oxen and B 150 sheep; what should each pay supposing an ox to eat as much as 10 sheep?

5 Five persons run a coach 45 miles: A provides horses for 7 miles, B 8, C 9, D 10, and E 11: the profits for 3 months, deducting expenses, amount to 120*l.*; what is each person's share?

6 A, B, and C gained 189*l.*: A put in 60*l.*, B and C together 225*l.*: now C claimed 90*l.* as his share of the gain; how much ought A and B each to receive, and how much did B and C each put in?

7 A person divided 2400*l.* amongst three children, to A he gave $\frac{1}{3}$, to B $\frac{1}{4}$, and to C $\frac{1}{5}$; what is the share of each?

8 The clear assets of an estate amount to 2160*l.*: there are four creditors, A for 720*l.*, B for 840*l.*, C for 1200*l.*, and D for 1560*l.*; what are their respective dividends?

9 A bank consisting of 4 partners, is divided into 32 shares, A holds 8, B 9, C 10, and D the remainder: they gained 5000*l.*; what is each person's share?

10 An estate, deducting charges, amounted to 3306*l.*: it owes A 3403*l.*, B 4454*l.* 17*s.*, and C 3560*l.* 3*s.*; how much will each receive?

C 1 A and B were partners: A had 600*l.* in business for 6 months, and B 300*l.* for 9 months, they gained 440*l.*: *what is* each person's share?

2 A advanced in a business 500*l.* for 4 months, B 750*l.* for 6 months, and C 925*l.* for 8 months: they lost 695*l.*; how much must each lose?

3 A commenced business on the 1st of January with a capital of 850*l.*, on the 1st of March following he took in B with 1000*l.*, three months after this they took in C with 625*l.*, by the end of the year they gained 1147*l.* 10s.: required each person's share of the gain?

4 Three persons rented together a field for 68*l.* 10s.: A puts in 140 sheep for 14 days, B 160 sheep for 12 days, and C 200 sheep for 8 days; what should each pay?

5 Three persons rent a field for 46*l.* 4s.: A puts in 20 oxen for 3 months, B 15 oxen for 5 months, and C 12 oxen for 8 months; what should each pay?

6 A, B, and C join stocks in trade: A advances 250*l.* for 6 months, B 200*l.* for 7 months, and C 180*l.* for 5 months; what is each person's share, of gain or loss?

7 A, B, and C rent a field for 22*l.* 12s.: A puts in 35 cattle for 12 months, B 40 for 9 months, and C 50 for 7 months; what should A pay?

8 A and B rent a field for 75*l.* 12s.: A puts in 36 horses for 40 days, and B 24 horses for 45 days; what should each pay?

9 Three persons were partners: A had 1000*l.* in business for 10 months, B 850*l.* for 8 months, and C 750*l.* for 12 months, they gained 1290*l.*; what was each person's share.?

10 On the 1st of March, A began trade with 500*l.*, on the 1st of June he took in B with 750*l.*, and on the 1st of August they took in C with 800*l.*: by the end of the year they had a clear gain of 712*l.* 10s.; what was each person's share?

D 1 A advanced in business 850*l.*, B 1075*l.*, and C 910*l.*, but A was to have 5½ per cent. on the profits, their whole gain amounted to 1000*l.*; what was each person's share?

2 A advanced in business 750*l.*, B 940*l.*, C 605*l.*, and D 510*l.*: A was to have 2½ per cent. on the profits, and B 4 per cent., their profits amounted to 750*l.*; how much would each person receive?

3 *A and B* were partners for 12 months, A advanced 400*l.*

for the first 3 months, and then 750*l.* more: B advanced 500*l.* for the first 5 months, and then 450*l.* more: they gain 1020*l.*; what will each receive?

4 On the 1st of January, A brought into a business 350*l.*, and on the 1st of April 500*l.* more: on the 1st of June he takes out 400*l.*: three months after this he brought in 600*l.*: B brought into the business 500*l.*, four months after this he takes out 150*l.*, and on the 1st of November he brought in 650*l.*: at the end of the year their clear gain is 1008*l.*, how much ought each to receive?

5 A, B, and C invest capital to the amount of 400*l.*, 500*l.*, and 600*l.* respectively; A was to have 5 per cent. on the profits: their whole gain amounted to 450*l.*; what was each person's share?

6 A and B engage in trade, their capitals being in the ratio of 9 : 10; in six months they withdraw respectively $\frac{1}{3}$ and $\frac{1}{4}$ of their capitals; at the end of the year they had gained 990*l.*; how should it be divided?

7 A and B each embark 1000*l.* in a business: at the end of three months A withdraws 400*l.*, which B advances, and the same is repeated at the end of three months more; at the end of the year they dissolve, and the property which was reduced to 600*l.* was divided; what should each receive?

8 A and B rent a pasture for 138*l.*: A puts in 200 sheep and B 180, but at the end of six months they dispose of half their stock, and allow C to put in 120; what should A, B, and C pay severally towards the rent, at the year's end?

9 A puts into a concern 750*l.* and B 450*l.*: at the end of 8 months they take in C, who brings in a capital of 1200*l.* The profits amounting to 2160*l.*, were divided at the end of 16 months; what share did each receive?

10 A, B, and C jointly conduct a business for 18 months: A puts in 700*l.*, and at the end of 4 months takes out 250*l.*, at the end of 9 months puts in 400*l.*, and at the end of 15 months takes out 150*l.*; B puts in 600*l.*, and at the end of 5 months 300*l.* more, at the end of 12 months he takes out 200*l.*, but puts in 400*l.* at the end of 16 *months*; C puts in 1000*l.*, and at the end of 6 months

takes out 400*l.*, at the end of 10 months puts in 500*l.*, but takes out that and 150*l.* more at the end of 14 months; how should they divide their whole gain 1646*l.* at the end of the given time?

STOCKS.

Find what must be given for

	Stock.		per cent.				Stock.		per cent.		
A 1	£750	in the	3*l.*	at	92	B 1	£2750	in the	3½*l.*	at	92½
2	800	..	3	..	89	2	1400	..	4½	..	87½
3	1400	..	3½	..	75	3	675	..	4	..	90¾
4	1550	..	3½	..	85	4	500	..	3½	..	75½
5	640	..	4	..	86	5	1375	..	3	..	82⅛
6	950	..	4	..	93	6	2000	..	4½	..	90⅜
7	2110	..	4½	..	92	7	725	..	3½	..	91⅜
8	1050	..	4½	..	84	8	1850	..	4	..	79⅜
9	325	..	3	..	96	9	1150	..	3½	..	81⅞
10	1450	..	4	..	90	10	2675	..	4½	..	91⅜

Find what stock can be bought for the undermentioned sums in the given kinds of stock, and at the given prices.

		per cent.					per cent.		
C 1	£1425	in the	3*l.*	at	75	D 1	£2775	in the	3½*l.* at	92½
2	1130	..	4	..	96	2	1847	..	4½ ..	85½
3	1080	..	3	..	95	3	2100	..	3 ..	75¾
4	2400	..	4	..	84	4	3125	..	4 ..	87½
5	3000	..	4	..	89	5	1800	..	3½ ..	83⅛
6	2740	..	3½	..	92	6	1834	..	4½ ..	81⅛
7	3741	..	4½	..	87	7	1397	..	4 ..	73⅜
8	2418	..	3	..	93	8	2710	..	3 ..	89⅜
9	1845	..	4½	..	76	9	2020	..	3½ ..	79⅝
10	1350	..	3½	..	91	10	3100	..	4½ ..	95⅜

Find what return per cent. will be obtained by purchasing

	E 1 £3 per cent. at 75 per cent.		F 1 £4 per cent. at 82½ per cent.	
2	4 .. .. 64 ..	2	3 .. .. 90½ ..	
3	3½ .. .. 85 ..	3	3½ .. .. 82½ ..	
4	4½ .. .. 91 ..	4	4½ .. .. 84½ ..	
5	3 .. .. 87 ..	5	3½ .. .. 97⅜ ..	
6	3½ .. .. 93 ..	6	4 .. .. 72½ ..	
7	4½ .. .. 77 ..	7	4½ .. .. 76⅜ ..	
8	4 .. .. 81 ..	8	3½ .. .. 83⅜ ..	
9	3⅜ .. .. 94 ..	9	4½ .. .. 95⅞ ..	
10	4⅜ .. .. 89 ..	10	3½ .. .. 89½ ..	

Find what annual income arises by investing the under-mentioned sums in the given kinds of stock at the given prices.

		per cent.					per cent.		
G	1£2016	in the	3*l.* at	84	H	1£1396	in the	3½*l.* at	87½
	2 1245	..	4 ..	83		2 1510	..	4½ ..	75½
	3 1200	..	3 ..	75		3 2597	..	3 ..	92¾
	4 2790	..	4 ..	93		4 2775	..	3½ ..	69⅜
	5 3216	..	3 ..	67		5 2646	..	4½ ..	75⅜
	6 1364	..	3½ ..	88		6 2037	..	3 ..	84⅞
	7 2277	..	4½ ..	92		7 2865	..	3½ ..	71⅛
	8 2208	..	3 ..	69		8 3276	..	4½ ..	93⅜
	9 1170	..	3½ ..	78		9 2915	..	3½ ..	97½
	10 1739	..	4½ ..	94		10 3437	..	4 ..	81⅛

Find what sum must be invested in the given kinds of stock and at the given prices, to produce the under-mentioned annual returns.

Per cent.				income.	Per cent.				income.
I	1£3	at	85 to bring	123*l.*	J	1£3½	at 90	to bring	140*l.*
	2 4	..	72 ..	75		2 4½	.. 84	..	115
	3 4	..	91 ..	50		3 3	.. 70⅜	..	100
	4 3	..	96 ..	25		4 4	.. 91¼	..	125
	5 3½	..	84 ..	65		5 4½	.. 75⅜	..	135
	6 4½	..	93 ..	35		6 3½	.. 85⅜	..	84
	7 3½	..	77 ..	45		7 4	.. 93⅜	..	77
	8 4	..	97 ..	55		8 3	.. 74⅛	..	87
	9 4½	..	87 ..	62		9 4½	.. 68⅞	..	120
	10 3½	..	91 ..	72		10 3½	.. 78⅛	..	139

K 1 What sum will purchase 1450*l.* bank stock at 95⅛ per cent.?

2 If 1 purchase at 78, and receive 4*l.* 9*s.* 8½½*d.* per cent. for the money invested; what interest per cent. do I receive?

3 When the 4½ per cent. are at 97⅜; how much invested in them will produce an annual income of 150*l.*?

4 If I lay out 1440*l.* in the 3 per cent. at 88½; at what price must I sell out to gain 150*l.*?

5 What quantity of South Sea stock at 77½ can be bought for 1488*l.*?

6 Find the value (deducting 3½ per cent. duty) of a legacy of 1750*l.* stock in the 4 per cent., when at 76¼.

7 If I transfer stock to the value of 500*l.* from the 4 per *cent. at 89⅜* to the 3½ per cent. at 81½; what shall I *gain or lose* in annual income?

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8 What quantity of India stock at 145¼ per cent. may be bought for 1167*l.*?

9 What income will 1150*l.* bring in the 4½ per cent. at 95¾?

10 If the 3½ per cent. be at 87⅞ and the 3 per cent. at 74¼; in which shall I buy to the best advantage?

L 1 If I transfer 5000*l.* stock 4½ per cent. at 89 to the 3 per cent. at 74¼; what will be the difference in income?

2 If stock in the 4 per cent. produces 5 per cent. on the money invested; at what price was it bought?

3 If 750*l.* in the 3½ per cent. produces 31*l.* 17s. 6d. per annum; what is this per cent?

4 If 4524*l.* be invested in the 3 per cent. at 94¼; what is the annual return of interest?

5 What is the value of 461*l.* 10s. India stock at 112⅜ per cent.?

6 Purchasing at 20⅜ per cent. discount, and selling again at 8 per cent. premium, I cleared 340*l.* 10s.; what sum did I invest?

7 Find the cost of 470*l.* stock in the 3 per cent. at 86¼; and the income from the investment.

8 If I transfer 240*l.* 10s. stock 4 per cent. at 89 to the 3½ per cent. at 78½; how much of the latter shall I hold?

9 What is the value of 1240*l.* 10s. Russian stock at 126¼ per cent.?

10 If a person lays out 3500*l.* in the 4½ per cent. at 87½; what will be his loss by the stocks falling ¼ per cent.?

M1 If a person transfer 8500*l.* stock from the 3½ per cents. at 87, to the 3 per cent. at 82½; what would be the difference in his income?

2 Find the income derivable from 786*l.* 10s. invested in the 3½ per cent. at 85¼.

3 Gave 1103*l.* 12s. 7½d. for 1253*l.* 15s. in the 4 per cent.; what is the price of stock?

4 A person has 200*l.* in the 4 per cent., how much must he have in the 4½ per cent. that his whole income may be 26*l.*; and what sum will he realize by selling out both at 75⅞ and 72⅜ respectively?

5 What must be the price of the 3 per cent., that I may *receive* 4 per cent. for my money?

6 *How much* bank stock may be bought for 2170*l.* at 135½?

7 A person invests 1280*l.* 2s. 6d. in the 3½ per cent. at 52¼; what is his income?

8 If I transfer 30000*l.* stock from the 3½ per cent. at 92, to the 3 per cent. at 69; what would be the difference in my income?

9 What must be given for 2500*l.* stock in the 3½ per cent. at 87½; and what sum would be gained by selling out again at 96¼?

10 In which is it most advantageous to invest, in the 4 per cent. at 75½ or the 4½ per cent. at 85½?

EXCHANGE.

IRELAND.

£105 $\pm$ = £100 Sterling.

	Exchange Sterling.			per cent.		Exchange Irish.			per cent.
A 1	400*l.*	for Irish at		6*l.*	A 6	852*l.*	for Sterling at		6½*l.*
2	458	..	..	8	7	957	..	..	8½
3	585	..	..	10½	8	825	..	..	10
4	670	..	..	12	9	588	..	..	10½
5	750	..	..	8½	10	730	..	..	9½

FRANCE.

Francs 25.30 Cents $\pm$ = £1 Sterling.

	Exchange Sterling.			Frcs. Cts.		Exchange Frcs. Cts.			Frcs. Cts.
B 1	850*l.*	for Francs at		25.15	B 6	1524.15	for Sterl. at		25.40½
2	745	..	..	25.30	7	2562.84	..	..	25.42½
3	500	..	..	25.35½	8	3076.71	..	..	25.35½
4	715	..	..	24.25	9	3422.30	..	..	24.44½
5	820	..	..	23.42	10	6785.11	..	..	23.50½

BELGIUM.

39 Schillings 9 Grotes $\pm$ = £1 Sterling.

	Exchange Sterling.			Sch. G.		Exchange Fl. Cents.			Sch. G.
C 1	450*l.*	for Florins at		40 4½	C 6	7039.75	for Sterl. at		40 5½
2	645	..	..	39 2	7	9800.8	..	..	39 8
3	750	..	..	40 10	8	8570.35	..	..	39 5½
4	800	..	..	39 4½	9	0321.25	..	..	40 6½
5	640	..	..	40 5	10	5428.30	..	..	39 9½

THE NETHERLANDS.

Florins 11.95 Cents $\pm$ = £1 Sterling.

	Exchange Sterling.			Fl.Cts.		Exchange Fl. Cts.			Fl.Cts.
D 1	800*l.*	for Florins	at	11.95	D 6	9901.5	for Sterl.	at	12.7½
2	650	.. ..		12.7½	7	6273.21	.. ..		12.06
3	745	.. ..		11.90	8	9013.01	.. ..		11.92
4	525	.. ..		12.05	9	7253.89	.. ..		11.98
5	666	.. ..		11.93	10	4842.20	.. ..		12.10

HAMBURG.

13 Marks 8 Schillings $\pm$ = £1 Sterling.

	Exchange Sterling.			Mks.	Sch.		Exchange Mks.	Sch.			Mks.	Sch.
E 1	825*l.*	for Marks	at	13	12	E 6	7194	0	for Sterl.	at	13	10
2	650	.. ..		13	8	7	8457	15½	.. ..		13	12
3	932	.. ..		13	13½	8	9792	12	.. ..		13	13¾
4	745	.. ..		13	11¼	9	8040	10	.. ..		13	14½
5	550	.. ..		13	10½	10	10000	0	.. ..		13	12½

PRUSSIA.

6 Prussian Dollars 24¾ Groschen $\pm$ = £1 Sterling.

	Exchange Sterling.			P.D.	G.		Exchange P.D.	G.			P.D.	G.
F 1	540*l.*	for Dollars	at	6	25	F 6	5780	20	for Sterl.	at	6	27½
2	720	.. ..		6	27½	7	3032	10	.. ..		6	23½
3	800	.. ..		6	23	8	4400	0	.. ..		6	24
4	870	.. ..		6	25¼	9	5100	15	.. ..		6	22½
5	550	.. ..		6	28½	10	6800	0	.. ..		6	25

RUSSIA.

100 Copecs = 1 Silver Ruble $\pm$ = 3*s.* 2¼*d.* Sterling.

	Exchange Sterling.				Exchange S. Rubles.				
G 1	500*l.*	for S. Rubls.	at	37¼d.	G 6	5840.00	for Sterl.	at	37¼d.
2	750	.. ..		37½	7	4250.36	.. ..		37½
3	625	.. ..		38¼	8	3872.32	.. ..		38⅛
4	482	.. ..		36⅛	9	6742.75	.. ..		37⅛
5	685	.. ..		37⅛	10	4326.54	.. ..		37½

FRANKFORT ON THE MAIN.

150¾ Batzen ± = £1 Sterling.

	Exchange Sterling.			Batzen.		Exchange Rixd. Kr.				Batzen.
H 1	740*l.*	for Rixdolrs.		at 151¼	H 6	3750	40	for Sterl.	at	150½
2	575	..	..	151	7	4250	0	.. ..		151¼
3	840	..	..	152	8	4396	16	.. ..		152
4	954	..	..	150½	9	4971	36	.. ..		150¾
5	750	..	..	150¾	10	5620	27	.. ..		151

AUSTRIA.

10 Florins 3 Kreuzers ± = £1 Sterling.

	Exchange Sterling.			Fl. Kr.		Exchange Flor. Kr.				Fl. Kr.
I 1	840*l.*	for Florins		at 10 2	I 6	4750	0	for Sterl.	at	10 1
2	654	..	..	9 58	7	6746	32	.. ..		10 1¼
3	785	..	..	10 1	8	5834	20	.. ..		9 57½
4	700	..	..	9 57½	9	7525	0	.. ..		10 2
5	864	..	..	10 1¼	10	6894	25	.. ..		10 1¼

LOMBARDO-VENETO.

29 Lire 20 Centisimi ± = £1 Sterling.

	Exchange Sterling.			Lire. Ct.		Exchange Lire. Ct.				Lire. Ct.
J 1	500*l.*	for Lire		at 30.25	J 6	8741.55		for Sterl.	at	30.30
2	752	..	..	30.36	7	7416.36		.. ..		30.24
3	846	..	..	30.15	8	6606.60		.. ..		30.25
4	960	..	..	29.75	9	5942.13		.. ..		30.75
5	875	..	..	30.45	10	6342.93½		.. ..		30.44

NAPLES.

607 Grani ± = £1 Sterling.

	Exchange Sterling.			Grani.		Exchange Ducats. Gr.				Grani.
K 1	750*l.*	for Ducats		at 605	K 6	4561.71		for Sterl.	at	604
2	825	..	..	607	7	3913.24		.. ..		608
3	437	..	..	604	8	5230.48½		.. ..		612
4	677	..	..	609	9	6743.35		.. ..		607
5	940	..	..	610	10	8425.75		.. ..		610

PALERMO.

60 Tari $\pm$ = £1 Sterling.

	Exchange Sterling.			Tari.		Exchange Oncie.	Tari.		Tari.
L 1	145*l.*	17s.	for Oncie at	60½	L 6	318	13¼	for Sterl. at	59⅝
2	225	10	.. ..	60¼	7	216	20½	.. ..	60⅛
3	376	0	.. ..	59½	8	430	12¼	.. ..	60¼
4	500	0	.. ..	60¼	9	500	0	.. ..	60
5	804	5	.. ..	60½	10	875	15	.. ..	60¼

TUSCANY.

29 Lire 83 Centisimi $\pm$ = £1 Sterling.

	Exchange Sterling.			Lire.Ct.		Exchange Lire. Ct.			Lire.Ct.
M 1	600*l.*		for Lire at	30.20	M 6	8596.80		for Sterl. at	29.85
2	520	..	..	29.85	7	6736.27½	..	..	30.55
3	844	..	..	29.72½	8	5292.55	..	..	30.20
4	728	..	..	30.55	9	6341.55	..	..	30.15
5	450	..	..	30.20½	10	9874.47½	..	..	29.90

GENOA.

25 Lire Nuove 9 Centisimi $\pm$ = £1 Sterling.

	Exchange Sterling.			LN.Ct.		Exchange LN.Ct.			LN.Ct.
N 1	530*l.*		for L. Nuo. at	24.80	N 6	4229.35		for Sterl. at	25.10
2	450	..	..	25.08	7	7990.32	..	..	25.35
3	322	..	..	24.95	8	4175.19	..	..	24.84
4	283	..	..	25.25	9	6243.12	..	..	24.96
5	357	..	..	24.90	10	9882.60	..	..	25.20

SPAIN.

1 Dollar of Plate $\pm$ = 3s. Sterling.

	Exchange Sterling.					Exchange R. P.			
O 1	612*l.*		for Rls. of Pl. at	38¼d.	O 6	23680		for Sterling at	36d.
2	740	..	..	37	7	47360	..	..	36½
3	900	..	..	37½	8	21440	..	..	37
4	657	..	..	36½	9	27360	..	..	37½
5	684	..	..	38	10	31360	..	..	38

GIBRALTER.

1 Dollar ± = 4s. 1¼d. Sterling.

	Exchange Sterling.				Exchange Dollars.			
P 1	456*l.* for Dollars at			48d.	P 6	2520 for Sterling at		47d.
2	970	..	..	48½	7	3960	.. ..	47½
3	779	..	..	47½	8	7872	.. ..	47½
4	819	..	..	48¼	9	9072	.. ..	48¼
5	825	..	..	49½	10	5040	.. ..	48¼

PORTUGAL.

1 Milreis ± = 4s. 6d. Sterling.

	Exchange Sterling.				Exchange C. R. M.			
Q 1	500*l.* for Reis at			57d.	Q 6	3:640.840 for Sterl. at		57½d.
2	928	..	..	58	7	4:105.625	.. ..	57
3	750	..	..	56½	8	3:968.455	.. ..	58
4	975	..	..	57½	9	2:990.500	.. ..	56½
5	872	..	..	54½	10	4:765.450	.. ..	58½

BREMEN.

612 Rixdollars ± = £100 Sterling.

	Exchange Sterling.			Rixdollars.	Exchange Rixdollars.			Rixdollars.
R 1	750*l.* for Rixdollars at			612	R 6	6885 for Sterling at		612
2	845	..	..	610	7	7835	.. ..	612½
3	900	..	..	612½	8	5846	.. ..	614
4	645	..	..	614	9	6370	.. ..	612½
5	850	..	..	613½	10	5468	.. ..	613½

* LUBEC.

123¼ Marks (Lubec) ± = 100 Marks Banco (Hamburg.)

13 Marks 8 Schillings ± = £1 Sterling.

	Exchange Sterling.			Bco. Lubec.	Exchange Mks. Lubec.			M. L. M. B.
S 1	500*l.* for Mks. at			14 & 123	S 6	10478 for Sterl. at		124 & 13
2	700	..	..	13½..124	7	12535½	.. ..	123½..14
3	850	..	..	13¼..123½	8	13038	.. ..	123..13¼
4	645	..	..	13 ..123½	9	15903	.. ..	124..13½
5	900	..	..	13¾..123¼	10	7872	.. ..	123..13¼

* Lubec Currency requires first to be reduced into Hamburg Banco, from which it may be exchanged into Sterling.

DENMARK.

9 Rigsbank Dollars 35 Skillings $\pm$ = £1 Sterling.

	Exchange Sterling.			R.D.	Sk.		Exchange R.Dol.	Sk.			R.D.	Sk.
T 1	500*l.*	for Dollars	at	9	35	T 6	7200	18	for Sterl.	at	9	36
2	450	..	..	9	36	7	6843	33	.. ..		9	35
3	735	..	..	9	34	8	7208	0	.. ..		9	37
4	840	..	..	9	37	9	5392	65	.. ..		9	34
5	925	..	..	9	36	10	4501	54	.. ..		9	36

SWEDEN AND NORWAY.

12 Riksdalers 2 Skillings $\pm$ = £1 Sterling.

	Exchange Sterling.			Rdr.	Sk.		Exchange Rdr.	Sk.			Rdr.	Sk.
U 1	500*l.*	for Rdr.	at	12	2	U 6	8156	12	for Sterl.	at	12	4
2	725	..	..	12	4	7	7835	5½	.. ..		12	2
3	470	..	..	12	1½	8	5015	1¼	.. ..		12	1½
4	540	..	..	12	2½	9	9503	46¾	.. ..		12	1
5	800	..	..	12	1½	10	8091	23¼	.. ..		12	2¼

TURKEY.

109 Piastres $\pm$ = £1 Sterling.

	Exchange Sterling.			Pi.	Pa.		Exchange Pi.	Paras.			Pi.	Pa.
V 1	500*l.*	for Piastr.	at	109	0	V 6	37122	3½	for Strl.	at	108	26
2	460	..	..	108	25	7	25633	6¾	.. ..		109	0
3	375	..	..	109	32	8	37278	25¾	.. ..		109	15
4	260	..	..	108	35	9	32064	10¾	.. ..		108	32
5	625	..	..	109	10	10	48221	2½	.. ..		109	20

EGYPT.

74 Piastres $\pm$ = £1 Sterling.

	Exchange Sterling.			P.		Exchange Piastres.			P.
W 1	500*l.*	for Piastres	at	74	W 6	38760	for Sterling	at	74
2	460	.. ..		74¼	7	76000	.. ..		73½
3	654	.. ..		73	8	58709	.. ..		74¼
4	725	.. ..		73½	9	28694	.. ..		73¾
5	584	.. ..		74½	10	32049	.. ..		74½

GREECE.

28 Drachmai 30 Lepta ± = £1 Sterling.

	Exchange Sterling.			D. L.		Exchange Dr. L.			D.L.
X 1	500*l.*	for Drach.	at	28,30	X 6	17593.75	for Sterl	at	28.15
2	475	..	..	28.50	7	25592.21	..	..	28.42
3	720	..	..	28.45	8	17015.60	..	..	28.32
4	635	..	..	28.73	9	14366.29	..	..	28.68
5	714	..	..	28.90	10	22604.16	..	..	28.95

THE IONIAN ISLANDS.

1 Spanish Dollar ± = 4s. 3¼d. Sterling.

	Exchange Sterling.					Exchange Sp.D. Oboli.				
Y 1	414*l.*	for Sp. Dol.	at	51¼d.	Y 6	2760	150	for Sterl.	at	52¼d.
2	515	..	..	51¼	7	3281	200	..	..	51¼
3	656	..	..	51¼	8	4550	145	..	..	51¼
4	845	..	..	52¼	9	3460	204	..	..	52¼
5	845	..	..	52¼	10	2875	24	..	..	51¼

MALTA.

1 Pezza ± = 4s. 1d. Sterling.

	Exchange Sterling.					Exchange Pez. Tari.				
Z 1	392*l.*	for	Pezz.	at 49d.	Z 6	2707	15	for Sterl.	at	49d.
2	530	..	..	49½	7	3302	15	..	..	49½
3	657	..	..	50	8	3630	24	..	..	49¼
4	862	..	..	49¾	9	2408	20	..	..	50
5	700	..	..	50½	10	3123	22½	..	..	49¾

ROME.

46 Paoli ± = £1 Sterling.

	Exchange Sterling.					Exchange Sc.R. Pa.				
A 2	1	500*l.*	for Scu. Ro.	at 46	A 2	6	3082	3	for Sterl.	at 46
	2	375	..	.. 46½		7	3410	0	..	.. 46½
	3	284	..	.. 46¾		8	5647	4	..	.. 46¾
	4	320	..	.. 45½		9	4054	8	..	.. 45½
	5	600	..	.. 45¾		10	3572	5	..	.. 46¾

GENEVA.

25 Francs 45 Cents ± = £1 Sterling.

	Exchange Sterling.			Fr.Cts.		Exchange Frcs. Cts.			Fr.Cts.
B 2	1	500*l.* for Francs at		25.45	B 2	6 9543.75 for Ster. at			25.45
	2	437 ..	..	25.75		7 11547.63 ..	..		25.65
	3	382 ..	..	25.25		8 13402.87½ ..	..		25.75
	4	485 ..	..	25.42		9 12904.30 ..	..		25.80
	5	654 ..	..	25.50		10 18470.55 ..	..		25.65

BASLE.

17 Franks 45 Raps ± = £1 Sterling.

	Exchange Sterling.			Fr.R.		Exchange Fr. Ra.			Fr.R.
C 2	1	500*l.* for Franks at		17.45	C 2	6 20943.49 for Ster. at			17.45
	2	434 ..	..	17.50		7 14630.85 ..	..		17.55
	3	875 ..	..	17.65		8 11116.17 ..	..		17.55
	4	746 ..	..	17.35		9 12857.95 ..	..		17.85
	5	700 ..	..	17.77		10 9388.49 ..	..		17.88

ST. GALLEN.

12 Florins 15 Kreuzers ± = £1 Sterling.

	Exchange Sterling.			Fl.Kr.		Exchange Flor. Kr.			Fl.Kr.
D 2	1	500*l.* for Flors. at		12 15	D 2	6 4606 49 for Strl. at			12 15
	2	742 ..	..	12 40		7 6240 37 ..	..		12 25
	3	850 ..	..	12 35		8 7755 18 ..	..		12 36
	4	654 ..	..	12 42		9 8241 50 ..	..		12 24
	5	775 ..	..	12 25		10 9763 30 ..	..		12 40

AUGSBURG.

9 Florins 50 Kreuzers ± = £1 Sterling.

	Exchange Sterling.			Fl.K.		Exchange Flor. Kr.			Fl.K.
E 2	1	500*l.* for Florins at		9 50	E 2	6 7296 20 for Sterl. at			9 50
	2	730 ..	..	9 55		7 4827 12 ..	..		9 36
	3	820 ..	..	9 48		8 6189 59 ..	..		9 55
	4	937 ..	..	9 45		9 7689 31 ..	..		9 46
	5	870 ..	..	9 51		10 8245 38 ..	..		9 48

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SAXONY.

6 Dollars 18½ Neu-Groschen ± £1 Sterling.

	Exchange Sterling.			D.	N.G.		Exchange Doll. N.G.			D.	N.G.
F 2 1	500*l.*	for Doll.	at	6	18½	F 2 6	3764 20½	for Str.	at	6	18½
2	725	.. ..		6	20	7	5843 15	.. ..		6	22½
3	820	.. ..		6	28½	8	5938 12½	.. ..		6	17½
4	756	.. ..		6	15½	9	7032 14	.. ..		6	15
5	684	.. ..		6	22½	10	5824 20	.. ..		6	20½

BRITISH PROVINCES IN NORTH AMERICA AND THE UNITED STATES.

In exchange the Dollar = 4s. 6d. Par Premium or 8 per cent.

	Exchange Sterling.			per cent.		Exchange Dollars.			per cent.
G 2 1	337*l.* 10s.	for Doll.	at	7½	G 2 6	1500	for Sterling	at	8
2	675 0	.. ..		10	7	2400	.. ..		8
3	562 10	.. ..		8½	8	1612½	.. ..		7½
4	465 0	.. ..		8½	9	3255	.. ..		8½
5	750 0	.. ..		8	10	2750	.. ..		10

WEST INDIES. SPANISH SETTLEMENTS IN SOUTH AMERICA.

1 Dollar ± = 4s. 2d. Sterling.

	Exchange Sterling.				Exchange Dollars.			
H 2 1	500*l.*	for Dollars	at	50d.	H 2 6	3200	for Sterling	at 50d.
2	368	.. ..		50½	7	4275	.. ..	50½
3	750	.. ..		49¾	8	2109	.. ..	49¾
4	627	.. ..		49½	9	3207	.. ..	49½
5	469	.. ..		50¼	10	3865	.. ..	50½

EAST INDIES.

1 Company's Rupee ± = 1s. 11¾d. Sterling.

	Exchange Sterling.				Exchange C. Rupees.			
I 2 1	500*l.*	for C. Rup.	at	23¾d.	I 2 6	3764	for Sterl.	at 23¾d.
2	423	.. ..		23½	7	4200	.. ..	23½
3	864	.. ..		24	8	7635	.. ..	24¼
4	465½	.. ..		24½	9	6837	.. ..	24½
5	720	.. ..		24¾	10	7285	.. ..	23½

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BRAZIL.

1 Milreis $\pm$ = 2s. 2¼d. Sterling.

	Exchange Sterling.					Exchange Milreis.				
J 2	1	500*l.* for Milreis at 26¼d.			J 2	6	5000 for Sterl. at 26¼d.		
	2	367½	..	.. 26½		7	4700	..	.. 25½
	3	680	..	.. 25½		8	6823	..	.. 26½
	4	495	..	.. 27		9	7215	..	.. 25½
	5	668¼	..	.. 26¼		10	8311	..	.. 26¼

CAPE OF GOOD HOPE.

1 Rixdollar $\pm$ = 1s. 6d. Sterling.

	Exchange Sterling.					Exchange Rixdollars.				
K 2	1	500*l.* for Rixdoll. at 18d.			K 2	6	4163½ for Sterl. at 18d.		
	2	375	..	.. 18¼		7	3423	..	.. 17½
	3	277½	..	.. 18½		8	7211	..	.. 18½
	4	552	..	.. 17½		9	6843	..	.. 18¼
	5	764	..	.. 17¾		10	5827	..	.. 17¼

CHINA.

1 Dollar $\pm$ = 4s. 7⅛d. Sterling.

	Exchange Sterling.			per Dollar.		Exchange Taels.			per Dollar.
L 2	1	500*l.* for Taels at 55d.			L 2	6	1817⅜ for Sterl. at 55⅛d.		
	2	886	..	.. 55⅜		7	2272	..	.. 55⅜
	3	810	..	.. 56¼		8	2158⅜	..	.. 55⅞
	4	534	..	.. 55⅜		9	2499½	..	.. 55⅛
	5	596	..	.. 55⅞		10	3180½	..	.. 55⅜

CROSS EXCHANGES.

M 2 1 Exchange 11363 Francs 25 Cents at Paris with Amsterdam, at 208½ Francs for 100 Florins. Hamburg, at 187½ Francs for 100 Marks.

2 Exchange 4750 Marks Banco, 12 Sch. at Hamburg with Paris, at 187½ Francs for 100 Marks. Berlin, at 153½ Prussian Dollars for 300 Marks. Vienna, at 146 Florins for 200 Marks.

3 Exchange 3864 Florins at Amsterdam with Naples, at 80½ Florins for 40 Ducats. Leghorn at 40 Florins for

100 Lire Toscane. Genoa, at 47 Florins for 100 Lire Nuove.

4 Exchange 7200 Rixdollars 50 Kreuzers at Frankfort with Bremen, at 109½ Rixdollars for 100 Rixdollars. Amsterdam, at 140 Rixdollars for 250 Florins. Augsburg, at 100½ Rixdollars for 150 Florins.

5 Exchange 7960 Lire Nuove at Genoa with Paris, at 99½ Lire for 100 Francs. Vienna, at 252½ Lire for 100 Florins. Hamburg, at 182 Lire for 100 Marks. Lisbon, at 610½ Lire for 100 Milreis.

ARBITRATIONS OF EXCHANGE.

N2 1 Bills on Amsterdam, bought in London at 12 Florins 15 Cents per £ Sterling, are sold in Paris at 57½ Florins per 120 Francs; what is the rate of exchange between London and Paris?

2 Bills on Leghorn, bought in London at 30 Lire per £ Sterling, are sold in Hamburg at 218 Lire per 100 Marks; what exchange does this show between London and Hamburg?

3 Bills on Paris, bought in London at 25 Francs 60 Cents per £ Sterling, are sold in Lisbon at 170 Reis per Franc; what is the exchange between London and Lisbon?

4 Bills on Paris, bought in London at 25 Francs 40 Cents, are sold in Hamburg at 187 Francs per 100 Marks; what is the exchange between London and Hamburg?

5 A Bill bought in London at 25 Francs 40 Cents is cashed at Amsterdam, at 57½ Florins for 120 Francs; what rate of exchange exists between the two places?

COMPOUND ARBITRATIONS.

O2 1 A Bill upon Hamburg is bought at 13 Marks 10¼ Schillings per £ Sterling, then sold at Amsterdam at 35¾ Florins per 40 Marks Banco; if the proceeds are then remitted to Paris in French Bills at 57¼ Florins per 120 Francs; what rate of exchange is there between London and Paris?

2 A bill upon Amsterdam is bought at 12 Florins per £ sterling, if the proceeds purchase at Amsterdam Bills upon Hamburg at 35¼ Florins for 40 Marks Banco;

these are forwarded to Paris and sold at 185 Francs per 100 Marks Banco; what rate of exchange does this show between London and Paris?

3 A Bill upon Hamburg is bought at 13 Marks 10½ Schillings per £ sterling, and sold in Amsterdam at 35½ Florins per 40 Banco Marks, if the proceeds are there laid out in Bills upon Genoa at 47¼ Florins per 100 Lire, and these again sold in Paris at 1 per Cent discount; what rate of exchange does this transaction show between London and Paris?

4 Bills upon Hamburg bought at 13 Marks 10 Schillings per £ sterling, are sold in Amsterdam at 35 Florins per 40 Banco Marks, and the proceeds invested in Bills upon Genoa at 46¼ Florins per 100 Lire; these again in Paris are sold at 1 per Cent discount, which purchased Bills on Madrid at 15 Francs 20 Cents per Pistole of Plate; these last transmitted to me are sold at 36¼d. per Dollar; what profit or loss per cent do I make?

5 What rate of exchange is established between London and Frankfort by Bills upon Paris, bought in London at 25 Francs 60 Cents per £ sterling, and sold in Amsterdam at 56¼ Florins for 120 Francs; the proceeds being invested in Bills upon Genoa bought at 46¼ Florins per 100 Lire and sold in Hamburg at 185 Lire per 100 Marks; and the proceeds being then transmitted to Frankfort in Bills upon Berlin bought at 152½ Prussian Dollars per 300 Banco Marks, and sold in Frankfort at 105 Prussian Dollars per 100 Rixdollars = 2250 Batzen?

For the tables of Exchange see the end of the Volume.

COMPOUND PROPORTION.

A 1 If 5 men earn 4*l*. 16s. 8d. in 8 days; how much will 27 men earn in 40 days?

2 If 10 men mow 24 acres in 4 days; in how many days will 12 men mow 108 acres?

3 If a piece of work be done by 8 men in 27 days of 8 hours *each*; how many men will do the same piece in 9 days *of 12* hours each?

4 If 6 cwt. be carried 90 miles for 1*l.* 16s.; what will 1 ton cost if carried 72 miles?

5 If 16 men make 30 suits of clothes in 5 days; how many will 24 men make in 18 days?

6 If 9 persons drink a barrel of ale in 16 days; how many barrels will 32 persons drink in 3 months of 28 days?

7 If 500*l.* gain 22*l.* 10s. in 9 months; how much will 850*l.* gain in 7 months?

8 If the carriage of 20 cwt. for 30 miles cost 4*l.* 8s. 6d.; what will 75 cwt. cost for 18 miles?

9 If 24 men earn 50*l.* in 30 days; how much will 36 men earn in 27 days?

10 If 28 men mow 18 acres in 2 days; in how many days will 36 men mow 108 acres?

B 1 If 350*l.* gain 15*l.* 15s. in 9 months; what sum will gain 21*l.* in 7 months?

2 If 35 men spend 84*l.* in 9 days; how much will 28 men spend in 20 days?

3 If 32 men build a house in 50 days, working ten hours a day; how many days will it take 35 men if they work 12 hours a day?

4 If 3000 copies of a book of 10 sheets require 60 reams of paper; how many reams are required for 5000 copies of 7½ sheets?

5 If a man travel 128 miles in 4 days, walking 10 hours a day; in how many days would he travel 896 miles, walking 8 hours a day?

6 If 4 men receive 66*l.* for 12 weeks wages; how much will 20 men receive for 4 months?

7 If the 6d. loaf weigh 3½ lbs. when wheat is at 50s. a quarter; what will be the price of wheat when the 8d. loaf weighs 4 lbs.?

8 If 75*l.* be expended in 8 days by 40 men; how much will last 150 men for 5 days?

9 If 500*l.* gain 20*l.* 10s. 8d. in 8 months; how much will 850*l.* gain in 12 months?

10 If 335*l.* gain 12*l.* 11s. 3d. in 9 months; what sum will gain 25*l.* in 7 months?

C 1 If 9 horses can be kept 35 days for 47*l.* 7s. 6d.; what will be the expense of keeping 25 horses for 84 days?

2 If 28 men build a house in 40 days; in what time will 16 men build three such houses?

3 If 5 men dig 150 yards in 8 days; in how many days will 12 men dig 630 yards?

4 If a person travel 350 miles in 10 days of 12 hours each; in how many days of 8 hours each will he travel 280 miles?

5 If 50 cannon consume 1000 barrels of powder in 16 days; how many barrels will be consumed in 5 days by 130 cannon at the same rate?

6 If 21 men can perform a piece of work in 16 days, working 9 hours a day; how many hours a day must 48 men work to complete the same in 12 days?

7 If 10 horses consume 35 quarters of oats in 27 days; how many quarters will 24 horses consume in 18 days?

8 If 66 loads of stone are drawn from a quarry by 18 horses in 11 days; how many loads will 12 horses draw in 21 days?

9 If the carriage of 15 cwt. for 30 miles cost 2*l.* 10s.; what weight will be carried 15 miles for 1*l.* 13s. 4d.?

10 If 25 men build a wall in 36 days, working 8 hours a day; how many will build a similar wall in 12 days, working 10 hours a day?

D 1 If the 4d. loaf weigh 1 lb. 10 oz. when flour is 3s. a peck; how much will the 10d. loaf weigh when flour is 2s. 6d. a peck?

2 If 560 sheep be turned into 12 acres of pasture for 24 days; how many acres ought 420 sheep to be turned into for 30 days?

3 If 8 horses plough 21 acres in $3\frac{1}{2}$ days; how many acres will 52 horses plough in 2 days?

4 If 14 men spend 13*l.* 5s. in $7\frac{1}{2}$ days; how much will 28 men spend in 30 days?

5 If 280*l.* gain 9*l.* 12s. in 9 months; in what time will 787*l.* 10s. gain 45*l.*?

6 A house was built by 38 men in 27 days, working 13 hours a day; how many will build a similar one in 19 days, working 9 hours a day?

7 If 36 yards of cloth, 3 qrs. wide, cost 5*l.* 8s.; what will *52 yards of* $2\frac{1}{2}$ qrs. wide, cost?

8 If 135 men receive 172*l*. 2s. 6d. wages for six days' work; how much at the same rate will 42 men receive for 15 days' work?

9 If 8¼ cwt. be carried 140 miles for 1*l*. 4s. 9d.; what will the carriage of 2½ tons for 75 miles cost?

10 If 18 pecks of flour serve 9 persons 54 days; how long will 40 pecks serve 15 persons?

E 1 If 340*l*. gain 9*l*. 18s. 4d. in 7 months; what sum will gain 75*l*. in 4 years?

2 If 1½ lbs. of bread be sold for 6d. when wheat is 2*l*. per quarter; what weight should be sold for 9d., when wheat is 2*l*. 5s. per quarter?

3 If 18 men spend 35*l*. in 3 weeks; how long will 27 men be in spending 210*l*. at the same rate?

4 If 27*l*. 10s. be the interest on 500*l*. for a year; what will be the interest on 345*l*. for 8 months?

5 If 3*l*. 7s. 6d. be paid for the carriage of 15½ cwt. for 108 miles; how far ought 48 cwt. to be carried for 5 guineas?

6 If 27 persons earn 127*l*. 11s. 6d. in 7 weeks; in what time will 9 persons earn 145*l*. 16s.?

7 If the interest on 341*l*. 10s. be 14*l*. 4s. 7d. for 4 months; how much will it be on 235*l*. 4s. for 10 months?

8 If ale brewed with 3½ bushels of malt cost 1s. 3d. per gallon, when malt is at 75s. per quarter; how much must ale be per gallon, brewed with 5 bushels, when the malt is at 63s. per quarter?

9 If the papering of a room 28 yards round and 4 yards high cost 5*l*. 10s.; what will the papering of another cost, 24 yards round and 3½ yards high?

10 If 20 men perform a piece of work in 16 days; in what time would 800 men perform 5 times as much?

F 1 If an engine of 50 horse power draw 300 tons of luggage at the rate of five miles per hour; at what rate per hour would an engine of 120 horse power draw 425 tons?

2 If 3 boats take 6000 herrings in 8 days; in how many days will 450 boats take 20,000 barrels, each containing 700 herrings?

3 If 32 bricks pave an area 5 feet long and 4 feet broad; *how many* will pave an area 21 feet by 20 feet?

4 A piece of silk at 3s. 6d. per yard and 3 qrs. wide is worth 15*l.* 18s. 4d.; what will a piece of the same length, 2 qrs. wide cost, at 4s. 9d. per Eng. ell?

5 A room whose height, length, and breadth are 8½, 15, and 10 feet respectively cost 111*l.* 10s. 7d. building; what will be the cost of a room whose height, length, and breadth are 9, 16, and 12¼ feet?

6 If 12 acres be ploughed in 7 days by 10 horses; how many horses will plough 54 acres in 21 days?

7 If 21 pecks of flour serve 10 persons 28 days; how long will 15 pecks serve 18 persons?

8 If 12 men earn 18*l.* 10s. in 5 days; how many men will earn 51*l.* 16s. in 8 days?

9 If 28 men build a house in 50 days of 8 hours each; how many will build it in 35 days of 10 hours each?

10 If 60 bushels of oats feed 10 horses for 24 days; in what time will 25 horses consume 100 bushels?

G 1 If 8 cwt. be carried 124 miles for 15s. 6d.; how far should 2½ tons be carried for 5*l.*?

2 If 3½ lbs. of bread be sold for 6d. when flour is 35s. a sack; what is flour a sack when 4 lbs. of bread cost 8d.?

3 If a piece of work be completed by 30 persons in 12 days of 8 hours each; how many persons will complete a similar piece in 8 days of 10 hours each?

4 If 879*l.* 3s. 4d. gain 17*l.* 11s. 8d. in 5 months; what sum will gain 20*l.* in 10 months?

5 If a person walk 75 miles in 3 days of 9 hours each; how far can he walk in 15 days of 7 hours each?

6 If 35 acres will pasture 140 cattle for 7 months; how many cattle will 70 acres pasture for 3 months?

7 If 6 men reap 33 a. 0 r. 12 p. in 7 days; how many can reap 82 a. 2 r. 30 p. in 15 days?

8 If 15 persons be boarded 3 weeks for 20 guineas; how long ought 9 persons to be boarded for 100*l.*?

9 If 22 pecks of flour serve 11 persons 18 days; how many pecks will serve 27 persons for 12 days?

10 If 6 horses eat 21 bushels of oats in 14 days; how many will eat 48 bushels in 12 days?

H 1 If the power of a horse to draw upon a railway at the rate of 2½ miles per hour be estimated equal to 12 tons

how many horses would draw 72 tons at 7½ miles per hour?

2 If 475*l.* gain 7*l.* 18s. 4d. in 4 months; in what time will 1000*l.* gain 50*l.*?

3 If 22 persons spend 65*l.* in 3 weeks; how much will 8 persons spend in 11 weeks?

4 If 33 lbs. of meat serve 11 persons for 6 days; how many lbs. will serve 40 persons for 10 days?

5 If 36 men erect a building in 45 days working 8 hours a day; how many men would erect a similar one in 27 days of 12 hours each?

6 If 3 fires constantly burning consume 20 tons of coal in 6 months; how many tons would the same fires consume in 9 months, if burning only 18 hours a day?

7 If an iron bar 12 feet long, 4 inches broad, and 2½ inches thick, weigh 120 lbs.; what will be the weight of a bar 18 feet long, 3 inches broad, and 2 inches thick?

8 If a cistern which holds 1000 gallons be emptied by 2 pipes in 2 days of 8 hours each; how many gallons will a cistern hold, which is emptied by 3 similar pipes in 3½ days of 6 hours each?

9 If 45*l.* worth of bread will maintain 15 men for 9 months when corn is 28s.; how many men can be maintained 7 months for 63*l.*, when wheat is 21s. a load?

10 If 12 horses consume 60*l.* worth of hay in 6 months, when hay is 10d. a stone; what will it cost to keep 9 horses for 15 months, when hay is 6d. per stone?

I 1 If 20,000 cubic feet of gas be consumed in 3 months by 7 burners, burning 5 hours a day; how many feet would be consumed in 9 months by 5 such burners, burning 8 hours a day?

2 If 12 bags of potatoes, of 2 bushels each, and 6s. 8d. per bag, last 8 persons 3 months; what would be the price per bag, when 9 bags of 3 bushels each, last 6 persons 4 months?

3 If 20 men, working 12 hours a day, earn 54*l.* 7s. 6d. in 15 days; how many days, of 9 hours each, must 27 men work to earn 163*l.* 2s. 6d.?

4 A field 300 yards long, and 280 broad, was ploughed by 6 horses in 2 days, of 8 hours each; how many horses

10 Six marro
again to
and each
G 1 Allowing
weeks;
2 There wer
persons
3 If 37 acres
acre?
4 Divide 270
5 Sixteen hun
what was
6 If 265 men
month; h
7 In a solu
how much
8 A person w
long was
the day?
9 A railway c
30m 48s
10 If a steam
in what
distance?

GREATE

No. 12.

Shew that the

A 1 17 and
2 25 ..
3 71 ..
4 235 ..
5 4003 ..
Find
B 1 741 and
2 886 ..
3 576 ..
4 1836 ..
5 523 ..
6

5 If a beam 18 feet long, 16 inches broad, and 12 inches thick, weigh 1008 lbs., and the weight of another similar beam, 18 inches broad, and 9 inches thick, be 1134 lbs.; what is its length?

6 If 20 cannon, firing 4 rounds in 5 minutes, kill 520 men in 1¼ hours; how many men will 25 cannon kill in 1 hour, firing 7 rounds in 10 minutes?

7 If a wall 467½ yards long, 8 feet high, and 14 inches thick, be built by 16 men in 35 days, of 10 hours each; in how many days, of 12 hours each, will 50 men enclose 4¼ miles in circumference, by a wall 12 feet high and 2½ feet thick?

8 If a piece of metal, 5 feet long, 4 inches broad, and 2½ inches thick, weigh 150 lbs.; what will a piece weigh, 9½ feet long, 3½ inches broad, and 2¼ inches thick?

9 If an engine of 30 horse power working 14 hours a day, can raise in 2 days 35 tons of coal up a pit 108½ yards in depth; in how many days will an engine of 25 horse power working 12 hours a day, raise 427 tons from a pit 414 feet deep?

10 If an engine of 175 horse power, with a driving wheel 6¼ feet in diameter, draw a train of 40 tons, at the rate of 28 miles an hour; what weight can an engine of 180 horse power, with a driving wheel 6¾ feet in diameter draw, at the same rate?

ARITHMETICAL PROGRESSION.

No. 18.

Find the term required in each of the following series.

	The		The
A 1	20th term of 1, 5, 9, &c.	B 1	16th term of 1½, 4½, 7, &c.
2	17th .. 2, 4, 6, ..	2	23rd .. 2⅓, 5⅓, 9⅓, ..
3	23rd .. 2, 5, 8, ..	3	37th ..3¼, 7¼, 12¼, ..
4	27th .. 2, 7, 12, ..	4	41st ..¼, 1 1/12, 1 1/12, ..
5	35th .. 3, 7, 11, ..	5	59th .. 8, 9⅛, 11⅛ ..
6	39th .. 4, 8, 12, ..	6	68th .. ⅞, 4 5/12, 8 1/12, ..
7	40th .. 12, 13, 14, ..	7	77th ..9⅛, 13 1/16, 17 7/16,..
8	48th .. 7, 15, 23, ..	8	84th .. 7, 12⅞, 18¾,..
9	59th .. 3, 9, 15, ..	9	95th .. 5⅛, 7 1/16, 10 1/16,..
10	84th .. 7, 14, 21, ..	10	100th ..8⅛, 15 1/16, 22 1/16,..

	The		The
C 1	12th term of 48, 46, 44, &c.	6	27th tm. 113, 111½, 110½, &c.
2	18th .. 80, 77, 74, ..	7	31st .. 120, 117⅓, 114⅔, ..
3	20th .. 130, 126, 122, ..	8	49th .. 312, 307⅛, 302¼, ..
4	35th .. 145, 141, 137, ..	9	50th .. 428, 422⅛, 416⅛, ..
5	43rd .. 228, 225, 222, ..	10	67th $314\frac{7}{8}$, $310\frac{11}{16}$, $306\frac{5}{16}$, ..

Find the sum of each of the following series.

D 1	1, 3, 5, &c. to 50 terms.	E 6	$2\frac{1}{4}, 4\frac{7}{12}, 6\frac{1}{2}$, &c. to 37 tms.
2	2, 5, 8, ... 19 ..	7	$3\frac{1}{3}, 6\frac{13}{20}, 9\frac{9}{20}$, ... 41 ..
3	1, 8, 15, ... 10 ..	8	$\frac{1}{8}, 4\frac{23}{24}, 9\frac{7}{8}$, ... 56 ..
4	8, 12, 16, ... 15 ..	9	$\frac{1}{7}, 1\frac{11}{14}, 3\frac{17}{28}$, ... 67 ..
5	12, 13, 14, ... 17 ..	10	$1\frac{1}{12}, 4\frac{23}{24}, 8\frac{11}{24}$, ...100 ..
6	5, 7, 9, ...100 ..	F 1	12, 9, 6, ... 20 .
7	4, 7, 10, ... 65 ..	2	15, 11, 7, ... 17 ..
8	11, 16, 21, ... 26 ..	3	9, 7, 5, ... 32 ..
9	3, 9, 15, ... 17 ..	4	18, 13, 8, ... 38 ..
10	6, 14, 22, ... 15 ..	5	20, 17, 14, ... 40 ..
E 1	$\frac{1}{2}, \frac{5}{8}, 1\frac{1}{4}$, ... 12 ..	6	16, $15\frac{1}{6}$, $14\frac{1}{3}$, ... 27 ..
2	$1, 1\frac{3}{4}, 1\frac{1}{2}$, ... 13 ..	7	$17, 14\frac{3}{5}, 11\frac{1}{5}$, ... 31 ..
3	$\frac{1}{6}, 1, 1\frac{1}{3}$, ... 20 ..	8	$13, 9\frac{1}{10}, 5\frac{1}{5}$, ... 36 ..
4	$\frac{1}{4}, 1\frac{1}{24}, 1\frac{11}{12}$, ... 15 ..	9	$21, 16\frac{1}{8}, 11\frac{1}{4}$, ... 40 .
5	$\frac{1}{8}, 1\frac{13}{24}, 2\frac{1}{3}$, ... 27 ..	10	$19\frac{5}{8}, 12\frac{19}{24}, 4\frac{7}{12}$, ... 50 ..

Insert the required number of Arithmetical means between the numbers given below.

G 1	Two	between	2	and	20	H 1	Three	between	$\frac{1}{2}$ and $4\frac{1}{2}$
2	Three	..	1	..	17	2	Four	..	$\frac{7}{8}$ .. $3\frac{3}{8}$
3	Four	..	3	..	28	3	Five	..	$1\frac{1}{2}$ .. $5\frac{5}{8}$
4	Five	..	6	..	42	4	Six	..	$2\frac{1}{4}$ .. $9\frac{9}{10}$
5	Six	..	3	..	17	5	Four	..	$3\frac{3}{5}$ .. $11\frac{1}{5}$
6	Seven	..	1	..	2	6	Three	..	$\frac{5}{8}$ .. 2
7	Eight	..	2	..	11	7	Four	.	$1\frac{1}{2}$. $10\frac{1}{2}$
8	Seven	..	7	..	27	8	Five	..	$2\frac{7}{10}$ .. 20
9	Three	..	5	..	14	9	Six	..	$5\frac{1}{2}$ .. $16\frac{7}{12}$
10	Five	..	3	..	7	10	Seven	..	$2\frac{5}{12}$ .. $10\frac{1}{12}$

GEOMETRICAL PROGRESSION.

No. 19.

Find the term required in each of the following series.

A 1	The 9th term of	1, 5, 25, &c.	A 6	The 12th term of	100, 50, 25, &c.
2	10th ..	1, 3, 9 ..	7	6th ..	$\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ ..
3	12th ..	2, 4, 8 ..	8	9th ..	$1\frac{1}{2}$, 1, $\frac{3}{4}$ ..
4	8th ..	5, 20, 80, ..	9	7th ..	$\frac{1}{2}$, $\frac{1}{10}$, $\frac{1}{50}$, ..
5	9th ..	100, 40, 16, ..	10	11th ..	100, $66\frac{2}{3}$, $44\frac{4}{9}$,

Find the sum of each of the following series.

B 1	1, 2, 4, &c. to	12 terms.	B 6	$\frac{1}{3}$, $\frac{1}{2}$, $\frac{3}{4}$, &c. to	8 terms.
2	3, 9, 27, &c. ..	9 ..	7	$\frac{1}{3}$, $\frac{1}{9}$, $\frac{1}{27}$, &c. ..	6 ..
3	2, 10, 50, &c. ..	8 ..	8	$\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, &c. ..	10 ..
4	$\frac{1}{4}$, 2, 8, &c. ..	10 ..	9	$1\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, &c. ..	12 ..
5	$\frac{1}{16}$, $2\frac{1}{2}$, 15, &c. ..	7 ..	10	$3\frac{3}{8}$, $2\frac{1}{4}$, $1\frac{1}{2}$, &c. ..	7 ..

Insert the required number of Geometrical means between the numbers given below.

C 1	One between	2 and 18	C 6	Two between	$\frac{1}{3}$ and $\frac{1}{729}$
2	Two ..	1 .. 64	7	One ..	1, .. $\frac{1}{81}$
3	One ..	2 .. 32	8	Two ..	$2\frac{1}{2}$, .. $\frac{1}{250}$
4	One ..	10 .. 1000	9	Three ..	3 .. $15\frac{3}{16}$
5	Three ..	37 .. 2997	10	One ..	$3\frac{1}{3}$, .. $1\frac{1}{2}$

PERMUTATIONS AND COMBINATIONS.

No. 20.

A 1 How many changes may be wrung on 8 bells?

2 How many ways can six persons be placed in a different position, at a desk?

3 How many different ways can the 7 notes in music be varied?

4 How many changes can be made of any 9 letters of the alphabet?

5 In how many different ways can a class of 12 boys be varied?

B 1 How many variations can be made of the letters in the word Englishmen?

2 How many changes can be made of the letters in the words Free Grammar School?

3 How many different numbers can be made of the following figures, 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5 ?

4 How many changes can be made of the letters in the words Classical School?

5 How many changes can be made of the letters in the words Commercial School?

C 1 How many changes can be rung with 5 bells out of 12?

2 What number of words can be made with six letters out of the 24 letters in the alphabet?

3 How many different numbers can be formed, by taking 4 figures out of 10?

4 How many changes can be rung with 6 bells out of 10?

5 How many different words can be made of 7 letters out of the 26 letters of the alphabet?

D 1 How many combinations can be made of 6 figures out of 10?

2 How many combinations can be made of 5 letters out of 24?

3 In how many ways can 6 persons be taken out of a force of 50 men?

4 Twenty persons agreed to meet weekly, 4 at a time, so long as they could without the same 4 persons meeting together; how many weeks would they meet?

5 Find the number of combinations that can be made of 12 things out of 50?

E 1 Suppose there are 6 companies, in each of which there are 10 men; it is required to find how many ways 10 men may be chosen, one out of each company.

2 Suppose there are 4 companies, in one of which there are 8 men, in another 10, and in each of the other two 12; what are the choices, by a composition of 4 men, 1 out of each company?

3 Suppose there are 9 classes in a school, each containing 24 boys; find how many ways 24 boys may be chosen, one out of each class.

4 Suppose there are 6 schools, in one of which there are 30 boys, in another 35, in another 40, and in each of the other three 50; what are the choices, by a composition *of 6 boys*, one out of each school?

5 *Suppose* there are 5 bags, one of which contains 375

marbles, another 246, another 420, and each of the other two 300; how many ways may 5 marbles be taken one out of each bag?

EQUATION OF PAYMENTS.

No. 21.

In the following examples find the time when the sums may be paid in one payment.

A 1 85*l.* due in 8 months, and 120*l.* in 5 months.

2 100*l.* due in 8 months, and 150*l.* in 6 months.

3 250*l.* due in 10 months, and 400*l.* in 14 months.

4 350*l.* due in 3 mths., 400*l.* in 5 mths., and 250*l.* in 10 mths.

5 79*l.* due in 50 days; 45*l.* due in 90 days; and 10*l.* due in 45 days.

6 100*l.* at 4 months; 135*l.* 16s. 8d. at 6 months; and 215*l.* at 9 months.

7 100*l.* due in 3 months; 200*l.* in 4 months; 300*l.* in 5 months; 400*l.* in 6 months; and 750*l* in 10 months.

8 44*l.* 7s. 6d. due in 4 months; 75*l.* 12s. in 6 months; and 92*l.* 13s. 4d. in 7 months.

9 132*l.* 4s. 6d. due in 5 months; 176*l.* 16s. 8d. in 6½ months; and 237*l* 7s. 8d. in 9 months.

10 75*l.* due in 3 months; 64*l.* 10s. in 4 months; 128*l.* 11s. 4d. in 5 months; and 126*l.* 8s. 2d. in 6 months.

B 1 250*l.* at 7 months; 500*l.* at 9 months; and 250*l.* in 12 months.

2 Of a debt, ⅓ in 4 months, ¼ in 7 months; and the rest in 8 months.

3 2000*l.* to be paid as follows: viz. ⅛ in 2 months; ⅛ in 4 months; ¼ in 6 months; and the rest in 9 months.

4 100*l.* to be paid in monthly payments of 10*l.*

5 105*l.* 6s. to be paid in monthly payments of 8*l.* 15s. 6d.

6 700*l.* to be paid, ⅛ down; of the remainder ⅛ in 3months; ¼ in 5 months; ½ in 7 months; and the rest in 9 months.

7 1000*l.* to be paid as follows: viz. 250*l.* in 3 months; 325*l* 10s. 6d. in 5 months; 184*l.* 13s. 4d. in 6 months, and the remainder in 10 months.

8 Of a debt, ⅛ in 4 months; ¼ in 6 months; ⅛ in 8 months; ⅛ in 10 months; and the remainder in 12 months.

9 100*l.* due now; and 50*l.* at the end of every month for 8 months,

10 347*l.* 14s. 6d. due now; and 72*l.* 5s. 6d. to be paid every month for 12 months.

SQUARE ROOT.

No. 22.

Find the Square Root of

A 1	140625	D 1	807.48610669
2	81796	2	1369.68088464
3	219961	3	1524138.3936
4	344569	4	22,1658289636
5	452929	5	322855.785616
6	620944	6	.007674285609
7	716716	7	5452.43420836
8	917704	8	39.49242649
9	1181569	9	.007158682881
10	2910436	10	.00053253869824
B 1	14197824	E 1	289.23124624
2	16867449	2	9.5333355121
3	21986721	3	.015241383936
4	33953929	4	168616.175641
5	46212804	5	.614665408036
6	56190016	6	.968281584169
7	6789265609	7	.000099780121
8	3477107089	8	95.85976464
9	7681295449	9	10200.798001
10	9543140721	10	.000080946009
C 1	78817755025	F 1	7.5080932081
2	94498448836	2	2142.66226321
3	221230063201	3	.000399920004
4	257136211396	4	149814.669481
5	456208386624	5	.000089415936
6	493284284964	6	65.1400724836
7	198529060356	7	.000585543204
8	702822339025	8	81.0016200081
9	166543161409	9	.82629736208l
10	2559412904464	10	6089.81280144

G 1	$\frac{4}{5}\frac{4}{6}\frac{4}{7}$	G 6	$20\frac{4}{5}\frac{4}{9}$
2	$\frac{4}{10}\frac{4}{11}\frac{4}{12}$	7	$16\frac{4}{11}\frac{4}{12}$
3	$\frac{4}{5}\frac{4}{6}\frac{4}{7}$	8	$70\frac{4}{11}\frac{4}{12}$
4	$7\frac{8}{11}\frac{8}{12}$	9	$27\frac{3}{11}\frac{3}{12}$
5	$7\frac{8}{11}$	10	$253\frac{3}{8}\frac{3}{11}$

H 1 A square field contains 10a. 0r. 36p. 17¼yds.; find the length of its side in yards.

2 A square field contains 15a. 2r. 20p.; find its side in chains.

3 How many chains and links in the side of a square field, containing 1a. 3r. 29p. $22\frac{8}{10}\frac{8}{0}$ yds.?

4 How many chains in a square area, containing 1a. 0r. 22p. $7\frac{8}{11}$ yds.?

5 Find the side of a square field of the same area as a rectangle whose sides are 800 links and 1800 links.

6 The side of a square field is 6 chains, 65 links; find the side of another 4 times as large.

7 Find the side of a square yard, the paving of which at 4s. 2d. per square yard, cost 56*l.* 0s. 10d.

8 The sides of 2 squares are 15 and 20 yards; find the side of a square equal to the 2 squares.

9 The sides of 2 squares are 16 feet and 63 feet; find the side of a square equal to the 2 squares.

10 The sides of 3 squares are 120 feet, 240 feet, and 510 feet; find the side of a square equal to the 3 given squares.

I 1 The base of a right angled triangle is 140 feet, and the perpendicular 48 feet; find the hypothenuse.

2 The base of a right angled triangle is 45 feet, and the hypothenuse 51 feet; find the perpendicular.

3 The perpendicular and hypothenuse of a right angled triangle are 35 and 91 feet; find the base.

4 Two ships sail from a port at the same time; one sails due east, at the rate of 15 miles an hour, the other, due north, at the rate of 8 miles an hour; how far are they apart at the end of 12 hours?

5 A rectangular field measures 225 yards in length and 120 yards in breadth; what will be the length of a diagonal path across it?

6 A square field contains 14a. 3r. 32p. 3yds.; find the length of a diagonal path across it.

7 Find the side of a square building which contains 3 times as much room as another 27 yards long and 9 yards broad.

8 The length of a line stretched from the top of a steeple to a mark 360 feet from its base, was found to measure 450 feet; what was the height of the steeple?

9 The top of a hill is 240 feet above the level of an intended road, and the length of the incline on the one side is 945 feet, and the other 975 feet; what will be the length of a tunnel passing through the hill?

10 Find the perpendicular of an equilateral triangle, whose side is 148 feet.

CUBE ROOT.

No. 23.

Find the Cube Root of

A 1	24389	C 4	226646274673
2	50653	5	69325227712
3	54872	6	45575805248
4	97336	7	221644831039
5	185193	8	388857151899
6	314432	9	702121283072
7	421875	10	999700029999
8	592704	D 1	22913563.806827
9	970299	2	.000397065375
10	941192	3	8.054121591125
B 1	21717639	4	359182.835520704
2	29218112	5	.000000704969
3	73560059	6	343926.933740047
4	131872229	7	286060.914469
5	241804367	8	531.244194299
6	406869021	9	174395797.003
7	625026375	10	747377.296875
8	938313739	E 1	.000672912250947
9	746142643	2	6.634074439
10	997002999	3	790426818.936
C 1	14049858997	4	84431.188603
2	*660548744829*	5	.000530850728673
3	*109833421069*	6	943354.554171875

E 7	295.514762227712	F 9	699090.535439
8	.000351298031616	10	937.164079656
9	.000526535421875	G 1	$\frac{4}{13}$
10	.002679826869	2	$\frac{1}{13}\frac{4}{13}$
F 1	23.788477376	3	$\frac{1}{13}\frac{4}{13}$
2	30.613460646969	4	$\frac{1}{169}\frac{8}{13}$
3	380920.459249	5	$5\frac{1}{13}\frac{4}{13}$
4	.000755560187712	6	$31\frac{144}{169}$
5	.000004949175699	7	$69\frac{4}{13}\frac{8}{13}$
6	748.366000039	8	$13\frac{1}{13}\frac{0}{13}\frac{4}{13}$
7	19880186.829	9	$3\frac{2}{13}\frac{8}{13}$
8	91064.263499	10	$4\frac{4}{13}\frac{3}{13}\frac{7}{13}$

H 1 Required the edge of a cubical vessel, containing 15625 cubic feet.

2 Find the edge of a cubical mound which shall contain as much as one 96 feet, 72 feet, and 16 feet in length, breadth, and depth.

3 The edge of a cubical vessel is 18 inches; what is that of one containing 8 times as much?

4 A cistern is 25 feet long, 9 feet broad, and 12 feet deep; required the dimensions of a similar one that shall contain 8 times as much.

5 A beam is 6ft. 9in. long, 2ft. 3in. broad, and 9in. thick; required the side of a cube of equal capacity.

6 Find the length of the side of a cubical mound, containing 59319 cubic feet.

7 Find the edge of a cubical piece of stone which shall contain as much as one 64 feet, 27 feet, and 8 feet, in length, breadth, and depth.

8 Find the length of the side of a cubical bin, which holds 50 bushels of corn; if one bushel = 2218.192 cubic inches.

9 Find the side of a cube containing 11 cubic feet, 675 inches.

10 A cistern is 12 feet long, 8 feet broad, and 6 feet deep; required the dimensions of a similar one that shall contain 5 times as much.

APPENDIX.

TARE AND TRET.

No. 24.

Find the net weight of

A 1 22 cwt. 2 qrs. 14 lbs. gross, tare 14 lbs. per cwt.

2 35 cwt. 0 qrs. 21 lbs. gross, tare 18 lbs. per cwt.

3 8 casks, each 4 cwt. 26 lbs. gross, tare 22 lbs. per cwt.

4 44 bags, each 3 cwt. 3 qrs. 10 lbs. gross, tare 10½ lbs. per bag.

5 27 hhds., each 5 cwt. 22 lbs. gross, tare 20 lbs. per cwt.

6 127 cwt. 3 qrs. 26 lbs. gross, tare 20½ lbs. per cwt.

7 115 cwt. 2 qrs. 18 lbs. gross, tare 1 qr. 4 lbs. per cwt.

8 16 hhds., each 8 cwt. 3 qrs. gross, tare 2 qrs. 16 lbs. per hhd.

9 26 casks, each 4 cwt. 26 lbs. gross, tare 18 lbs. per cwt.

10 32 bags, each 3 cwt. 12 lbs. gross, tare 15 lbs. per bag.

B 1 112 cwt. 3 qrs. 16 lbs. gross, tare 12 lbs. per cwt.

2 86 cwt. 2 qrs. 24 lbs. gross, tare 16 lbs. per cwt.

3 54 bags, each 3 cwt. 10 lbs. gross, tare 26 lbs. per bag.

4 28 hhds., each 6 cwt. 24 lbs. gross, tare 1 qr. 20 lbs. per hhd.

5 34 casks, each 7 cwt. 3 qrs. gross, tare 2 qrs. 12 lbs. per cask.

6 145 cwt. 0 qrs. 24 lbs. gross, tare 18 lbs. per cwt.

7 78 cwt. 2 qrs. 26 lbs. gross, tare 8 lbs. per cwt.

8 52 cwt. 16 lbs. gross, tare 14 lbs. per cwt., tret 4 lbs. in 104.

9 64 cwt. 21 lbs. gross, tare 17½ lbs. per cwt., tret 4 lbs. in 104.

10 84 cwt. 14 lbs. gross, tare 16 lbs. per cwt., tret 4 lbs. in 104.

DUODECIMALS.

No. 25.

	Ft.	in.		Ft.	in.
A 1	9	7	×	5	10
2	11	8	×	6	7
3	8	11	×	3	11
4	12	10	×	7	9
5	10	7	×	9	5
6	14	6	×	11	8
7	15	8	×	12	7
8	16	11	×	13	3
9	18	8	×	15	4
10	21	5	×	7	7
B 1	22	3	×	11	10
2	24	7	×	18	7
3	32	9	×	20	11
4	40	8	×	24	6
5	44	7	×	25	10
6	48	10	×	37	9
7	57	8	×	46	3
8	68	11	×	58	7
9	76	5	×	66	8
10	87	11	×	77	11

	Ft.	in.	"		Ft.	in.	"
C 1	7	5	7	×	6	8	5
2	8	9	9	×	8	4	6
3	8	10	3	×	7	5	9
4	9	7	4	×	6	9	4
5	10	10	10	×	7	7	7
6	11	8	5	×	9	5	11
7	12	4	6	×	10	7	5
8	13	11	9	×	11	6	3
9	18	8	4	×	13	2	9
10	27	3	8	×	17	4	8
D 1	36	2	8	×	13	8	7
2	46	8	7	×	23	6	4
3	52	11	11	×	37	9	8
4	67	5	3	×	42	3	5
5	78	10	5	×	58	9	4
6	82	11	9	×	67	4	9
7	88	0	9	×	64	0	4
8	93	4	8	×	75	0	8
9	97	3	6	×	76	1	3
10	99	11	11	×	84	10	9

E 1 What will be the expense of paving a yard 42 ft. 4 in. long, and 12 ft. 9 in. broad, with stone at 4s. 6d. per sq. yard?

2 A house has 22 windows; there are 12 squares in each window, measuring 21 in. by 16, each square; find the expense of glazing the whole at 1s. 6d. per square foot.

3 Find the solid content of a block of wood, measuring 6 ft. 6 in. long, 3 ft. 9 in. wide, and 1 ft. 3 in. thick.

4 What weight of water will a cistern contain, 4 ft. 3 in. deep, 5 ft. 6 in. long, and 2 ft. 4 in. broad, suupposing a cubic foot of water to weigh 1000 ounces?

5 Find the number of square yards in a floor, measuring 15 ft. 9 in. by 12 ft. 6 in.

6 The length of a room is 15 ft. 6 in., the breadth 12 ft., and the height 9 ft.; what will be the cost of painting the *walls and* ceiling at 9½d. per square yard?

7 Find the area of a square whose side is 7 ft. 9¼ in.

8 Find the area of a rectangular parallelogram, whose sides respectively, are 8 ft. 3 in. and 5 ft. 8 in.

9 If a gallon = 277.274 cubic inches, how many gallons will a cistern hold, which is 8 feet long, 5 ft. 6 in. wide, and 4 ft. 9 in. deep?

10 A pit is 12 ft. deep, 15 ft. 6 in. long, and 7 ft. 8 in. wide; find the number of cubic feet of earth that were dug out of it.

F 1 How many square feet of board does a rectangular box contain, which is 3 ft. 8 in. long, 2 ft. 4 in. broad, and 1 ft. 9 in. deep; and what does it cost at 1s. 2½d. per square foot?

2 Find the expense of paving a floor whose length is 35 ft. 10 in. and breadth 18 ft. 6 in., at 6s. 3d. per square yard.

3 Find the value of a beam, whose length, breadth, and depth, are 15¼ feet, 2½ feet, and 1¾ feet respectively, at 2s. 9d. per cubic foot.

4 How many solid feet and inches are there in a block of stone, measuring 6ft. 8in. long, 3ft. 6in. broad, and 2ft. 9in. thick?

5 What must be paid for painting the outside of a box 5ft. 6in. long, 3ft. 9in. wide, and 2ft. 10in. deep, at 1s. 8d. per square yard?

6 How many 3 inch cubes may be cut out of a piece of metal 3 feet long, 2 feet broad, and 1½ feet thick; what will be the value of the metal at 2*l.* 10s. per solid foot, and also the value of each cube?

7 Find the expense of glazing 16 windows, 4 of which measure 8ft. 3in. each, by 5ft. 8in.; 4 others 7ft. 9in. by 5ft. 4in.; 4 others, 6ft. 6in. by 4ft. 10in, and the remaining four, 5ft. 4in. each, by 4ft. 6in. at 3s. 6d. per square foot.

8 Find the expense of painting 4 rooms; the first, 16ft. by 12, and 10ft. 6in. high; the second, 15ft. by 10, and 9ft. 9in. high; the third, 14ft. by 9½, and 8ft. 4in. high; and the fourth, 12ft. by 8¾, and 7ft. 9in. high, ceilings included, at 1s. 4d. per square yard.

9 What will be the expense of lining a rectangular cistern, 9ft. 9in. long, 6ft. 8in. broad, and 3ft. 10in. deep, with sheet lead, at 1s. 2½d. per square foot?

10 *Find the* capacity of a rectangular cistern, 12ft. 4in. long, *8ft. 8in.* broad, and 4ft. 6in. deep?

REDUCTION OF FOREIGN WEIGHTS AND MEASURES.

No. 26.

A 1	Change	34 miles 24 yards to French Metres.
2	„	32808 French Metres to miles.
3	„	49 cwt. 24 lbs. to French Kilogrammes.
4	„	1450 French Kilogrammes to cwt.
5	„	75 Belgian Livres to cwt.
6	„	6 cwt. 0 qrs. 17 lbs. to Belgian Livres.
7	„	49 cwt. 0 qrs. 24 lbs. to Ponden of Netherlands.
8	„	300 Hamburg Marks to lbs. Troy.
9	„	1211.06 Imperial gallons to Hamburg Viertels.
10	„	7 cwt. 1 qr. 12lbs. to Prussian pounds.
B 1	„	250 Prussian Scheffels to Imperial bushels.
2	„	70 cwt. 2 qrs. 1¼ lbs. to Russian pounds.
3	„	2 miles 1718.475 yds. to Russian Arschines.
4	„	5250 Frankfort pounds heavy weight to cwt.
5	„	29 miles 994 yds. to Frankfort ells.
6	„	625 Austrian pounds to cwt.
7	„	156.51 Imperial quarters to Austrian Metzen.
8	„	9500 Libbre, peso grosso (Venetian) to cwt.
9	„	79 hhds. 33½ gals. of wine to Barile. (Naples)
10	„	8750 Cannas of Naples to Miles.
C 1	„	1312.725 lbs. Avoirdupois to Rottoli. (Palermo.)
2	„	4400 Palmi of Palermo to Miles.
3	„	326.04 Imperial gallons to Fiaschi, (Tuscany.)
4	„	800 Sacchi of Tuscany to Imperial quarters.
5	„	1 ton 1 cwt. 2 qrs. 20.33 lbs. to lbs of Genoa.
6	„	42 Mine of Corn (Genoa) to Imperial Bushels.
7	„	12 tons 9 cwt. 0 qrs. 8 lbs. to Spanish Arrobas.
8	„	74000 Spanish Varas to English leagues.
9	„	8 miles 1358 yds. 5 in. to Portuguese Covados.
10	„	45.7305 Imperial gallons to Bremen Stubchen.
D 1	„	144 Danish Viertels to Imperial Gallons.
2	„	304.68 Imperial quarters to Danish Tonnen.
3	„	840 Tunna (Sweden) to Imperial quarters.
4	„	18 cwt. 1 qr. 7¾ lbs. to Turkish Okes.
5	„	0404 Turkish Pikes to English Miles.

6	Change	64 cwt. 89¾ lbs. to Egyptian Cantars.
7	„	87 Cantari 25 Okes (Grecian) to cwt.
8	„	122,98 Imperial quarters to Grecian Kila.
9	„	50 Cantari 40 Rottoli (Malta) to cwt.
10	„	3 m. 40 yds. 8½ in. to Canne. (Malta.)
E 1	„	575 Rubbj (Rome) to Imperial Quarters.
2	„	37 miles 187 yards to Roman Canne.
3	„	700 Roman Canne to English yards.
4	„	9500 pounds of Rome to cwt.
5	„	305 pounds of Geneva to cwt.
6	„	855,10 Imperial Gallons to Setiers of Geneva.
7	„	1 m. 335 yds. 1 ft. 10 in. to Ells of Geneva.
8	„	7500 pounds of Basle to cwt.
9	„	267 Imperial Bushels to Sacks of Basle.
10	„	25 tons 0 cwt. 2 qrs. 15½ lbs. to lbs. of St. Gallen, heavy weight.
F 1	„	10 Eimer 28 Mass of St. Gallen to Imperial gallons.
2	„	444½ Imperial Bushels to Mutt of St. Gallen.
3	„	740 lbs. of Augsburg heavy weight to cwt.
4	„	32 cwt. 2 qrs. 20.74 lbs. to lbs. of Augsburg light wt.
5	„	7 Muid 39 Mass of Augsburg to Imperial gallons.
6	„	5311 Imperial bushels to Schaff of Augsburg.
7	„	63 cwt. 26.97 lbs. to pounds of Saxony.
8	„	350 Dresden Kannen to Imperial gallons.
9	„	303.705 Imperial Quarters to Dresden Scheffel.
10	„	8750 Saxon Ells to English Miles.
G 1	„	77½ Factory Maunds of Bengal to cwt.
2	„	24640 Cubits of Bengal to English Miles.
3	„	6 tons 12 cwt. to Bazar Maunds of Bengal.
4	„	267 Marcals of Madras to tons.
5	„	1080 Imperial Quarters to Garse of Madras.
6	„	20 Candy 16 Maunds 6 Vis of Madras to tons.
7	„	63 cwt. 3 qrs. 21 lbs. to Candy of Bombay.
8	„	9 Candy 10 Maunds 25 Seers of Bombay for cwt.
9	„	1568 Imperial Bushels to Candy of Bombay.
10	„	72 cwt. 3 qrs. 21¾ lbs. to Centner (Cape of Good Hope.)
H 1	„	50 Leggers of the Cape of Good Hope to Imp. gals.
2	„	7 miles 128 yards 2 feet 8 in. to Ells of the Cape of Good Hope.

3	Change	8 Peculs 70 Catties of China to cwt.
4	,,	14 cwt. 0½ lbs. of Peculs of China.
5	,,	58 lbs. 4oz. Troy to Taels of China.
6	,,	125 Hectolitres (French) to Imperial Quarters.
7	,,	683½ English yards to French Metres.
8	,,	540 Marks of Hamburgh to pounds Troy.
9	,,	150 miles 418 yards to Arschines of Russia.
10	,,	1 mile 105 yards 1 foot 6 in. to Braccio of Genoa.
I 1	,,	8 Pipes of wine (Palermo) to Imperial Gallons.
2	,,	20 Arrobas 14 lbs. of Portugal to cwt.
3	,,	22 cwt. 1qr. 2 lbs. to Cantars of Egypt.
4	,,	9 Cantars 31 Okes of Egypt to cwt.
5	,,	32 miles 1145 yards 1 ft. 10½ in. to Turkish Pikes.
6	,,	6 cwt. 12.72 lbs. to Spanish Arrobas.
7	,,	700 Tomoli of Wheat (Naples) to Imperial Quarters.
8	,,	171.95 Imperial Quarters to French Hectolitres.
9	,,	30525 French Metres to English Miles.
10	,,	65 Eimers of Austria to Imperial Gallons.
J 1	,,	7 Peculs 60 Catties 16 Taels of China to cwt.
2	,,	22 cwt. 2 qrs. 14 lbs. to Cantari of Greece.
3	,,	15 cwt. 2 qrs. 27$\frac{9}{32}$ lbs. to Candy of Madras.
4	,,	8 Candy 14 Maunds 20 Seers of Bombay to cwt.
5	,,	7 Candy Maunds 2 Vis 30 Pollans of Madras to cwt.
6	,,	7457500 French Hectolitres to Imperial Quarters.
7	,,	7825 Russian Tschetwerts to Imperial Quarters.
8	,,	2367000 Imperial Quarters to Frankfort Malters.
9	,,	7483 Tunna 12 Kappar (Sweden) to Imp. Quarters.
10	,,	792792 Imperial Quarters to Grecian Kila.

TABLES OF FOREIGN COINS, WEIGHTS, AND MEASURES.

FRANCE.

100 Centimes = 20 Sous = 1 Franc.
100 Kilogrammes = 220.48 lbs. Avoir.
100 Litres = 22.01 Imperial Gallons.
100 Hectolitres = 275.12 Imp. Bush.
100 Hectolitres = 34.39 Imp. Quarters.
100 Metres = 109.36 English Yards.

BELGIUM.

100 Centimes = 1 Franc or Florin.
12 Grotes Flemish = 1 Schilling.
40 Grotes = 3⅓ Schillings = 1 Florin.
100 Livres = 220.48 lbs. Avoirdupois.
100 Litrons = 22.01 Imperial Gallons.
100 Metres or Ells = 109.36 Eng. Yds.

THE NETHERLANDS.

100 Cents = 20 Stivers = 1 Florin.
50 Stivers = 2½ Florins = 1 Rixdollar.
100 Ponden = 220.48 lbs. Avoirdupois.
100 Kannen = 22.01 Imp. Gallons.
100 Lasts = 103.16 Imperial Lasts.
100 Ells = 109.36 English Yards.

HAMBURG.

192 Pfennings = 16 Schillings = 1 Mark.
48 Schillings = 3 Marks = 1 Rixdollar.
100 Marks = 751⅝ oz. Troy.
100 lbs. = 106.82 lbs. Avoirdupois.
100 Viertels = 159.35 Imp. Gallons.
100 Lasts = 62.66 Imperial Lasts.
100 Ells = 62.66 English Yards.

PRUSSIA.

30 Silver Groschen = 1 Prussian Dollar.
100 Pounds = 103.11 lbs. Avoirdupois.
100 Quarts = 25.20 Imperial Gallons.
100 Scheffels = 151.21 Imp. Bushels.
100 Ells = 72.93 English Yards.

RUSSIA.

100 Copecs = 1 Silver Ruble.
100 Pounds = 90.26 lbs. Avoirdupois.
100 Wedros = 270.46 Imp. Gallons.
100 Tschetwerts = 72.12 Imp. Qrs.
100 Arschines = 77.77 English Yds.

FRANKFORT-ON-THE-MAIN.

90 Kreuzers = 22½ Batzen = 1½ Florin = 1 Rixdollar.
100 lb. heavy weight = 111.42 lbs. Avoir.
100 lb. light weight = 103.16 do.
100 Viertels = 157.83 Imp. Gallons.
100 Malters = 39.45 Imp. Quarters.
100 Ells = 59.85 English Yards.

AUSTRIA.

60 Kreuzers = 1 Florin.
90 Kreuzers = 1½ Florin = 1 Rixdollar.
100 Pfund or Pounds = 123.52 lbs. Avoir.
100 Eimers = 1245.78 Imp. Gallons.
100 Metzen = 21.15 Imperial Quarters.
100 Ells = 85.21 English Yards.

LOMBARDO-VENETO.

100 Centisimi = 20 Soldi Austriachi = 1 Lira Austriaca.
100 Libbre, peso grosso = 105.17 lbs. Av.
100 Libbre, peso sottile = 66.41 do.
100 Secchi = *236.19* Imperial Gallons.
100 Staji = 29.19 Imperial Quarters.
100 Braccia, Woolen. Meas. = 74.47 yds.
100 Braccia, Silk Measure = 69.81 yds.

NAPLES.

100 Grani = 10 Carlini = 5 Tari = 1 Ducat.

The Cantaro Grosso of 100 Rottoli = 196.42 lbs. Avoirdupois.
The Cantaro Piccolo of 150 Libbre of 12 oz. = 106.07 lbs. Avoirdupois.
The Barile of wine = 9.11 Imp. Gals.
The Tomolo of wheat = 1.41 Imp. Bush.
A Canna = 83.18 English Inches.

PALERMO.

600 Grani = 30 Tari = 1 Oncia or Onza.
60 Tari = 5 Scudi = 2 Oncie.
100 Pounds of 12 Ounces = 70.01 lbs. Av.
The Cantaro of 100 Rottoli = 175.03 lbs.
The Pipe of Wine of 12 Sicilian Barrels = 94.33 Imperial Gallons.
The Salma of Corn = 7.61 Imp. Bush.
The Canna of 8 Palmi = 76.47 Eng. In.

TUSCANY.

100 Centisimi = 20 Soldi di Lira = 1 Lira Toscana.

100 Libbre or Pounds = 74.86 lbs. Av.
100 Fiaschi = 50.16 Imp. Gallons.
100 Sacchi = 25.13 Imp. Quarters.
100 Braccia = 63.83 Yards.

GENOA.

100 Centisimi = 1 Lira Nuova.
100 lbs. of Genoa = 69.88 lbs. Avoir.
100 Rottoli of 1½ lbs. = 104.83 lbs. Av.
The Barile of Wine = 16.34 Imp. Galls.
The Mina of Corn = 3.31 Imp. Bush.
The Braccio of 2½ Palmi = 22.96 Eng. In.

SPAIN.

34 Maravedis = 16 Quartos = 1 Real of Plate.
375 Maravedis = 11 Reals 1 Maravedi = 1 Ducat of Plate.
32 Reals = 4 Dollars of Plate = 1 Pistole of Plate.
680 Maravedis = 20 Reals Vellon = 1 Hard Dollar.
512 Maravedis Vellon = 15 Reals 2 Maravedis Vellon = 1 Dollar of Plate.
100 lbs. or 4 Arrobas = 101.44 lbs. Av.
1 Cantaro or Arroba of Wine = 3.52 Imperial Gallons.
1 Fanega of Corn = 7.79 Imp. Bush.
1 Vara or Ell = 33.38 Eng. Inches.

GIBRALTER.

192 Quartos = 12 Reals = 1 Dollar.

The Weights and Measures are those of Great Britain.

PORTUGAL.

1,000,000 Reis = 1000 Milreis = 1 Conto of Reis.

100 Pounds = 101.18 lbs. Avoir.
The Aroba of 32 lbs. = 32.38 lbs. do.
The Almude of Lisbon = 3.64 Imp. Gal.
Ditto Oporto = 5.61 do.
The Alquiere of Lisbon = 0.37 Imp. Bus.
Ditto Oporto = 0.46 do.
The Vara = 43.14 English Inches.
The Covado = 25.88 do.

BREMEN.

360 Schwaren = 72 Grotes = 1 Rixdollar.

100 Bremen Pounds = 109.90 lbs. Av.
100 Stubchen = 70.90 Imp. Gallons.
The Last of Corn = 10.19 Imp. Qrs.
100 Bremen Ells = 63.29 Yards.

LUBEC.

192 Pfennings = 16 Schillings = 1 Mark.

100 lbs. of Lubec = 106.85 lbs. Avoir.
100 Viertels = 159.35 Imp. Galls.
The Last of Corn = 11.03 Imp. Qrs.
The Ell = 22.91 English Inches.

DENMARK.

96 Skillings = 6 Marks = 1 Rigsbank Dollar.

100 lbs., Danish = 110.13 lbs. Avoir.
100 Viertels = 170.08 Imp. Gallons.
100 Tonnen = 47.84 Imp. Quarters.
100 Ells = 68.64 English Yards.

SWEDEN AND NORWAY.

576 Runstycken = 48 Skillings = 1 Riksdaler.

3 Riksdr. Silv. Sp. = 8 Riksdr. Banco = 12 Riksdr. Riksgald.

100 Pounds Victualie Wt. = 93.65 lbs. Avoirdupois.
100 Kannen = 57.60 Imp. Gallons.
100 Tunna of 36 Kappar = 56.70 Imp. Quarters.
100 Ells = 64.94 Yards.

TURKEY.

40 Paras = 1 Piastre.
The Rottolo of 180 Drams = 1.27 lb. Av.
The Oke of 400 Drams = 2.83 lbs. do.
The Almud (Liq. Meas.) = 1.15 Im.Gal.
The Killow of Corn = 0.96 Imp. Bush.
The Pike = 26⅝ English Inches.

EGYPT.

40 Paras = 1 Piastre.
The Cantar of 100 Rottoli, each of 144 Meticals, or 216 Drams = 100 lbs. Avoirdupois.
The Cantar = 36 Okes & 40 Okes = 112 lbs. Avoirdupois.
100 Ardebs = 61 Imperial Quarters.
The Pike = 27 English Inches.

GREECE.

100 Lepta = 1 Drachmi.
The Cantaro of 40 Okes = 112 lbs. Av.
The Cantaro of 100 lbs. = 105.17 do.
100 Kila = 11.44 Imp. Quarters.
100 Pichai (Wooln. Meas.) = 74.47 yds.
100 Pichai (Silk Meas.) = 69.81 yds.

THE IONIAN ISLANDS.

8000 Oboli = 16 Spanish Dollars = 1 Spanish Doubloon.

The Weights and Measures are those of Great Britain, but with Italian Denominations.

MALTA.

240 Grani = 12 Tari = 1 Scudo.
30 Tari = 1 Pezza or Sicilian Dollar.
The Cantaro of 100 Rottoli = 175.03 lbs. Avoirdupois.
The Barile of Wine = 9.35 Imp. Galls.
The Caffiso of Oil = 4.50 Imp. Galls.
The Salma of Corn = 7.88 Imp. Bush.
The Canna of 8 Palmi = 82.40 Eng. In.
64 Rottoli = 1 Cwt.
3½ Palmi = 1 Yard.

ROME.

100 Bajocchi = 10 Paoli = 1 Scudo Romano.

100 Roman Pounds = 74.77 lbs. Avoir.
100 Boccali = 40.12 Imp. Galls.
100 Rubbj = 101.28 Imp. Quarters.
100 Canne of 8 Palmi = 217.69 Yards.

GENEVA.

100 Cents = 1 Franc.

100 lb. of Geneva = 121.41 lbs. Avoir.
The Setier = 10.06 Imp. Galls.
The Coupe or Sack = 2.14 Imp. Bush.
The Ell = 45.04 English Inches.

BASLE.

100 Raps = 1 Swiss Frank.
100 Pounds = 108.61 lbs. Avoir.
The Ohm (Liqd. Mea.) = 10.77 Imp.Gal.
The Sack (Dry Mea.) = 3.56 Imp.Bush.
The Large Ell = 46.41 Eng. Inches.
The Small Ell = 21.42 do.

ST. GALLEN.

60 Kreuzers = 1 Florin.

100 lbs. heavy weight = 128.9 lbs. Av. | The Mutt of 4 Viertels = 2.09 Imp.Bus.
100 lbs. light weight = 102.5 do. | The Ell for Woollens = 24¼ Eng. In.
The Eimer of 32 Mass = 11¼ Imp.Galls. | The Ell for Silks = 31½ Eng. In.

AUGSBURG

60 Kreuzers = 1 Florin.

100 lbs. heavy weight = 108.30 lbs. Av. | The Schaff of 8 Metzen = 5.65 Im.Bush.
100 lbs. light weight = 104.23 do. | The Long Ell = 24.00 Eng. Inches.
The Muid of 48 Mass = 15.08 Imp.Gals. | The Short Ell = 23.32 do.

SAXONY.

300 Pfennige = 30 New-Groschen = 1 Dollar or Thaler.

100 Saxon Pounds = 103.10 lbs. Av. | 100 Dresden Scheffel = 35.73 Imp.Qrs
100 Dresden Kannen = 20.59 Imp.Galls. | 100 Saxon Ells = 61.94 Yards.

BRITISH PROVINCES IN NORTH AMERICA AND THE UNITED STATES.

100 Cents = 1 Dollar.

The Weights and Measures are those of Great Britain.

WEST INDIES. SPANISH SETTLEMENTS IN SOUTH AMERICA.

100 Cents = 1 Dollar.

The Weights and Measures are those of Great Britain and Spain.

EAST INDIES.

192 Pie = 16 Annas = 1 Rupee.

Bengal.	Madras.
640 Chittacks = 40 Seers = 1 Maund.	6400 Pollans = 160 Vis =
1 Factory Maund = 74⅜ lbs. Avoir.	20 Maunds = 1 Candy.
1 Bazar Maund = 82$\frac{2}{5}$ lbs. Avoir.	1 Candy = 500 lbs. Avoirdupois.
1 Guz. of 2 Cubits = 1 Eng. Yard.	1 Maund = 25 lbs. Avoirdupois.
10 Bazar Maunds = 11 Factory Maunds.	1 Garse = 16⅞ Imperial Quarters.
3 Factory Maunds = 2 Cwt. Avoir.	1 Covid = 18⅜ English Inches.
	400 Marcals = 80 Parahs = 8400 lbs. Av.

BOMBAY.

400 Reas = 4 Quarters = 1 Rupee.

800 Seers = 20 Maunds = 1 Candy.

1 Candy = 560 lbs. Avoirdupois. | 1 Maund = 28 lbs. Avoirdupois.

1 Candy (Dry Measure) = 24½ Imperial Bushels.

BRAZIL.

1200 Reis = 1 Brazilian Pataca or Dollar.

The Weights and Measures are the same as those of Portugal.

CAPE OF GOOD HOPE.

32 Stivers = 8 Shillings = 1 Rix-dollar.

The Centner = 108.93 lbs. Avoir. | The Muid = 3.06 Imp. Bushels.
The Legger = 126.63 Imp. Gallons. | The Ell = 27.82 Inches.

CHINA.

1000 Cash = 100 Candereens = 10 Mace = 1 Tael.

1600 Taels = 100 Catties = 1 Pecul.

84 Catties = 1 *Cwt. English.* | 82⅔ Taels = 100 oz. Troy.

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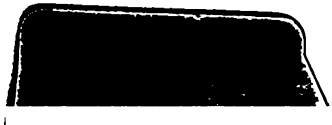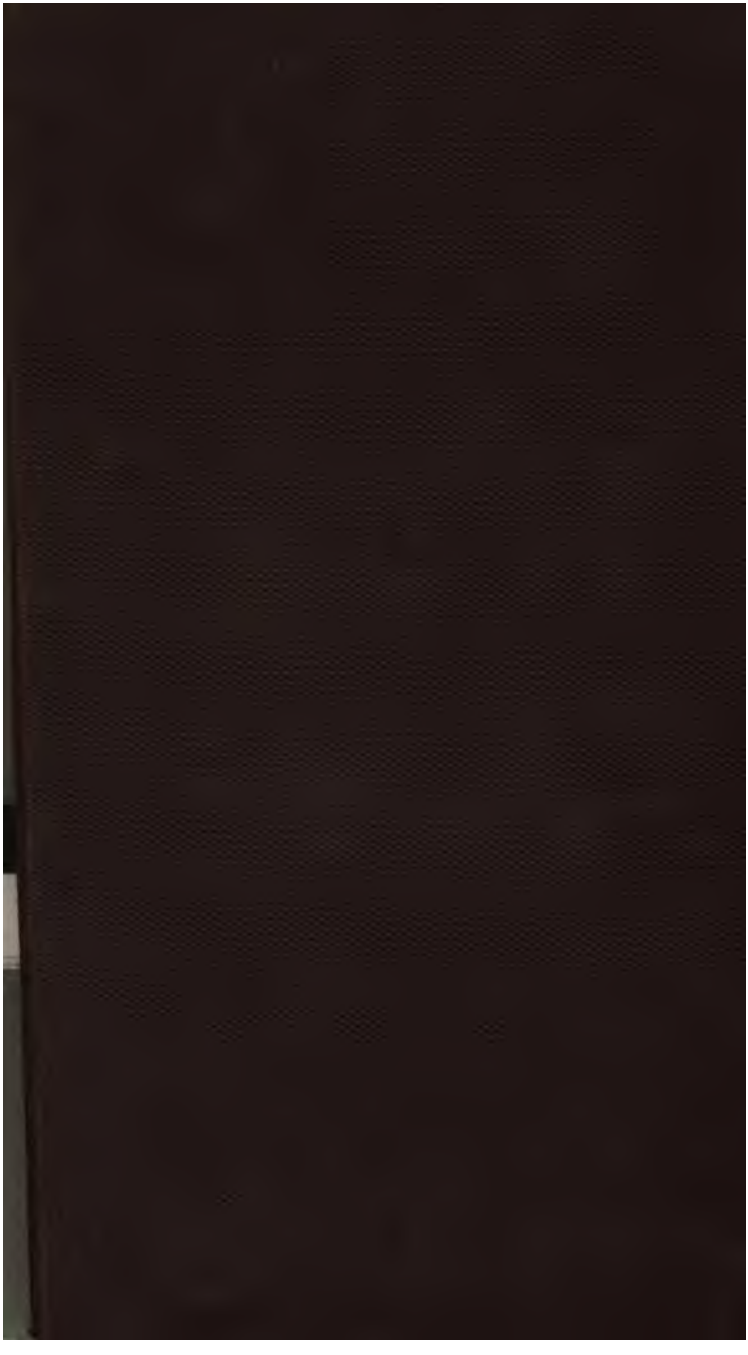
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